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A DEMONSTRATION CENTER TO IMPLEMENT AND TEST THE SCHOOL PROPERTY ACCOUNTING SYSTEM PRESENTED IN HANDBOOK III U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE.

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A REPORT ON THE IMPLEMENTING AND TESTING THE USE OF ELECTRONIC DEVICES FOR PROCESSING SCHOOL PROPERTY ACCOUNTING DATA CONSISTS OF PROCEDURAL STEPS FOR COLLECTING DATA PERTAINING TO SCHOOL SITES, BUILDINGS AND EQUIPMENT. DATA WERE COLLECTED TO ESTABLISH COMPLETE ACCOUNTING RECORDS OF SCHOOL PROPERTY AS IT EXISTED IN THE CEDAR RAPIDS, IOWA, SCHOOL SYSTEMS IN THE SPRING OF 1967. REPORTING FORMS, SYSTEMS, AND PROGRAMS FOR PROCESSING THESE DATA BY ELECTRONIC METHODS ARE PRESENTED. PROGRAMS WERE WRITTEN FOR AN IBM 1401. PROCEDURES AND PROGRAMS FOR UPDATING AND MAINTAINING PROPERTY ACCOUNTING RECORDS ARE DESCRIBED AND SAMPLES OF THE FORMS AND ACCOUNTING RECORDS ARE PRESENTED ALSO. (GM)

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FINAL REPORT

Project No. 6-2836-24

Contract No. OEC-3-7-062836-1538

A DEMONSTRATION CENTER TO IMPLEMENT AND TEST THE SCHOOL PROPERTY ACCOUNTING SYSTEM PRESENTED IN HANDBOOK III U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

DECEMBER 1967

U. S. Department of
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A DEMONSTRATION CENTER TO IMPLEMENT AND TEST THE SCHOOL PROPERTY ACCOUNTING SYSTEM PRESENTED IN HANDBOOK III U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Project No. 6-2836

Contract No. OEC-3-7-062836-1538

F. R. Burnham

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The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

DEPARTMENT OF PUBLIC INSTRUCTION

DES MOINES, IOWA

INTRODUCTION

The primary objective of Project 6-2836 entitled " A Demonstration Center to Implement and Test the School Property Accounting System presented in Handbook III, U. S. Department of Health, Education and Welfare," [1] was to implement and test the use of electronic devices for processing school property accounting data.

Using the principles of standard school property accounting as set forth in Handbook III and the "Guide for Implementing Handbook III Property Accounting for Local and State School Systems," [2] staff members engaged in this project performed the following operations related to school sites, buildings and equipment.

1. Collected data necessary to establish complete accounting records of school property as it existed in the Cedar Rapids school system in the spring of 1967.
2. Developed reporting forms, systems and programs for processing these data by electronic methods. (Programs were written for the IBM 1401).
3. Developed programs and procedures for updating and maintaining property accounting records.

[1] Paul L. Reason and George G. Tankard Jr., Property Accounting for Local and State School Systems. State Educational Records and Reports Series: Handbook III Bulletin 1959 No. 22, U. S. Department of Health, Education and Welfare (Washington: Government Printing Office, 1959).

[2] Charles P. Roberts, Guide for Implementing Handbook III, Property Accounting for Local and State School Systems, Department of Health, Education and Welfare (Washington, Government Printing Office, 1959).

METHOD

I. COLLECTION OF DATA

Collection of data relating to school property on hand in the Cedar Rapids Community School District at the time Project 6-2836 was initiated.

A. Sites and Buildings

1. Costs - Data on costs of sites, improvements to sites and buildings were obtained from ledgers in the bookkeeping department at Administration headquarters.

2. Areas

    a. Sites - File folders in the vault in the bookkeeping department, contained deeds for most real estate owned by the district. Areas of sites were obtained from the deeds. Deed registration records were obtained from the deeds.

    b. Buildings - The staff measured some buildings, but most measurements were taken from blueprints on file in the administration building. Measurements of chalk board, tack board and some built in facilities were furnished by faculty members.

B. Equipment

Collecting data with which to produce complete inventories of equipment occupied the major portion of time.

According to the terms of the project proposal, professional and non-professional employees of the Cedar Rapids Community School District were responsible for providing inventory data to the project staff.

The Cedar Rapids school administrators have for years required employees to furnish an inventory of all equipment for which they were responsible at the close of each school year. These reports provided the administration with inventories of equipment by room. These forms (Appendix A - Figure A-1) contained very little information except the name of commonest equipment and a numerical count of each. The staff prepared, duplicated and distributed a supplemental questionnaire to be filed with the regular annual inventory.

The first completed inventories were filed with the project staff late in April. They continued to come in about as fast as staff members could process them. The last ones were received about July first.
An additional source of information made available to project staff members was in the administration building where complete records were on file for most "Unit Control" types of equipment.

II PROCESSING THE DATA

A. Preparation of data for electronic processing.

1. Preparation of source documents - All data obtained from sources mentioned in I above were recorded manually by the project staff on forms which had been designed to correspond to the respective punched card formats.

    a. Site and Building Data - When once recorded on the form, site and building data were ready to be turned over to the IBM department for punching into cards.

    b. Equipment Data - Several operations were required to prepare equipment data for punching into cards, such as:

        (1) Recording name and description of equipment in a 27 column field (sometimes abbreviations were necessary to accomplish this).

        (2) Coding each equipment item according to the ten digit Association of Educational Data Systems Code.

        (3) Establishing unit prices for equipment, using the following source of information.

            a). Teachers, purchasing officers, supervisors or other experts in specific fields.

            b). Invoices of actual purchases made during approximately six years.

            c). Catalogues published by manufacturers and school supply companies.

2. Preparation of punched cards for the computer.

   a. Cards punched -
      When completed each source document was turned over to the IBM Department, where data were punched into cards.

   b. Cards verified -

      (1). Tab operators verified their work.
      (2). Project staff members checked punched cards against source documents.
      (NOTE: This was possible because key punch machines in use in the Cedar Rapids schools interpret punches on the top edge of the card).
      (3). Errors were noted on the incorrect cards, which were returned to the IBM room where they were replaced by correctly punched cards.

   c. Cards sorted -

      (1). Site and building cards -
      No sorting required - data complete and ready for processing as punched.

      (2). Equipment cards -

         a). First sort - Equipment cards were sorted by the ten digit Association of Educational Data Systems Classification Code. By this sort, cards for the same kind of equipment came out together. Prices of equipment, were then punched into the cards.

         b). Second sort - Equipment cards were then sorted by school number and by room number.

B. Punched Card Formats

1. Sites - Two cards were developed for site data (See Appendix D - pages 19-20, figures D-1 and D-2.)

   a. Card 0 Significant data are;

      (1). Area in acres to nearest one-tenth.
      (2). Cost of land.

    (3). Deed recording data
    (4). Location of site (address)

  b). Card 1 - Significant data are:

    (1). Costs of improvements to site, broken down to the following costs.

      (a). parking and drives
      (b). passageways and walks
      (c). water and sewer
      (d). electric
      (e). other
      (f). surface of play areas
      (g). equipment of play areas
      (h). fences and walls
      (i). landscaping
      (j). miscellaneous

2. Buildings - Six Cards - See appendix D, Pages 20-21
Figures D-4,5,6,7,8,9.

  a). Card 2 - Building Header Card - Significant data are;

    (1). Name of building
    (2). Use of Building (Handbook III, code numbers 211 and 217)
    (3). Fields to record code numbers for as many as three (3) different schools in a building (NOTE: Some small districts may have an elementary, junior high and high school in the same building. In Iowa each public school has an unique number assigned to it by the State Department of Public Instruction.)
    (4). Rated pupil capacity.
    (5). No. of fire alarms.
    (6). No. of call boxes
    (7). No. of sprinkler heads.
    (8). No. of heat detectors.
    (9). No. of hose cabinets.
    (10). No. of fire extinguishers.
    (11). No. of elevators.

  b). Card 3 - Building Section Header Significant data;

    (1). Ownership of building.

- (2). Availability of building
- (3). Mobility
- (4). Gross area of each section.
  - (a). Total area (gross) of section.
  - (b). Gross area of basement
  - (c). Gross area of first floor.
  - (d). Gross area of other floors.

c). Card 4 - Building Section Card
Significant data;

- (1). Date of construction.
- (2). Costs of building section.
  - (a). Total cost
  - (b). Contract costs
    - 1). General
    - 2). Mechanical
    - 3). Electrical
  - (c). Architect and engineer
  - (d). Legal
  - (e). Educational Consultant
  - (f). Miscellaneous
- (3). Type of construction.
- (4). No. of floors.
- (5). Heating system.
- (6). Fuel used.
- (7). Cooling system.
- (8). Ventilating system.
- (9). Source of water.
- (10). Sewage disposal system.
- (11). Electrical system.
- (12). Communication system.
- (13). Radio and T.V. program origination
- (14). Fire rating.

d). Card 5 Room Card - Significant data;

- (1). Room number
- (2). Type of room.
- (3). Area in square feet.
- (4). Construction materials.
  - (a). floor
  - (b). walls
  - (c). ceiling
- (5). Area of chalk board
- (6). Area of tack board
- (7). No. of electric outlets
- (8). Type of lighting
- (9). No. of gas outlets
- (10). No. of sinks and basins

(11). No of lavatories
(12). No. of water closets (toilets)
(13). No. of urinals
(14). No. of drinking faucets
(15). No. and types of adjunct spaces

e). Card 6 Built in equipment card - Fields provided for entering twelve different types of equipment that might be built into a room and the number of each.

f). Card 7 Appraisal card - This card can be used for either sites or buildings Significant data;
(1). Date
(2). Present value

3. Equipment - two (2) cards

a). Card 8 Equipment card - Programmer for Project 6-2836 recommends that the same card format be used to record data for both "Unit Control" type and "Group Control" equipment. Significant data;
(1). School number
(2). Room number
(3). Tag, group or purchase order number
(4). 10 digit AEDS Classification Code
(5). 27 column field for description, including serial numbers, if any.
(6). Ownership
(7). Life expectancy
(8). No. of units
(9). Date of purchase
(10). Unit cost
(11). Total cost of group

b). Card 9 Present value of equipment. Significant data;
(1). Tag, group or purchase order number
(2). AEDS code
(3). Number of units (other than one (1))
(4). Estimated present value

C. Computer Programs

The Cedar Rapids Community School District Data Processing Center has an IBM 1401 Computer with two (2) #7330 tape units and two (2) 1311 magnetic disc drives: Programs were written for this equipment.

Systems design and program work were done for project 6-2836 by personnel at the Iowa Information Center at the University of Iowa in Iowa City.

1. Sites

    a). Data from Cards No. 0, 1 and 7 for each site combined on to a single printout.
    b). Totals were computed for each site for;
        (1) area
        (2) costs
        (3) costs of improvements to sites

2. Buildings

    a). One printout
        (1). Combines data from Cards No. 2,3,4 and 7
        (2). Computes
            (a). total areas
            (b). total costs

    b). Second printout has data for each room
        (1). From card 5 only.
        (2). Computes totals of facilities enumerated above for card 5 (see d, items 5,6,7,8,9, 10.11.12.13.14)
    c). Third printout, merely lists items recorded on card 6.

3. Equipment

    For equipment data the computer is programmed to produce a printout which;

    a). Lists data in the same sequence as the fields in card 8.
    b). Produces a separate inventory of equipment for each room, giving the following totals for each room
        (1). Number of different entries.
        (2). Number of units of equipment.
        (3). Value of all equipment in the room.
    c). Produces totals for same fields as for rooms (see b) one two and three.
    d). Produces totals for same items for the entire district.

D. Printouts

When computer printouts were received, project staff members checked them for accuracy by comparing with the source document, and if errors were found, made the following adjustments.

1. If a card was out of place, moved it to its proper sequence in the deck.
2. If a punching error was found, wrote the correction on the printout and returned it to IBM for punching of correct card.
3. Manually withdrew from the deck all incorrect cards and replaced with correct cards.

III. METHODS OF UPDATING PROPERTY ACCOUNTING RECORDS

A. Sites and Buildings

The number of records for adequate accounting of expenditures made by a school board for sites and buildings is relatively small because when once brought up to date, no new entries are needed until expenditures are made for improvement to existing sites, purchase of additional real estate, or construction of a building.

No. new forms are recommended for updating site and building records. New entries can be made on regular source documents, or even on blank printout forms. When new data are punched into cards, the records will be brought up to date by the computer program and be retrieved on the next printout.

B. Equipment

1. New Acquisitions - When a shipment of equipment is received, the person who is to initiate the property accounting cycle, must be advised as to where it is to be sent. The following operations will be performed:
    - a). The shipment will be checked against the purchase order and invoice.
    - b). A source document will be completed showing each different place to which any part of the shipment is assigned, on which will be
        - (1). Building and room (if inventories are to be kept by room) to which assigned.
        - (2). The number of units of each kind of equipment consigned to that location.

  - (3). Necessary descriptive information.
  - (4). Cost price.
  - (5). The 10 digit AEDS code.

- c). Source Documents - will be sent to the key punch operator where:
  - (1). Data will be punched into cards.
  - (2). Cards will be duplicated.
    - a). One copy retained at property headquarters.
    - b). Second copy filed in the office of the receiving room or facility.

2. Transfers
   - a). Equipment under unit control. Because each card contains the record of a single unit of equipment only, the record of transfer of this unit from one place to another can be accomplished by;
     - (1). Removing the card from the file of the room from which the equipment is taken.
     - (2). Placing the card in the file of room which received the equipment.
     - (3). Notifying the property accounting office of the transfer when:
       - (a). The card is withdrawn from the file and transfer information written on it.
       - (b). Card is sent to the key punch operator where new card is punched and returned to the property accounting office.

   - b). Equipment under group control.
     - (1). When entire group is transferred, accounting for the transfer is the same as described for unit control.
     - (2). When part of a group is transferred the following operations are necessary.
       - (a). The property accounting office is given the details of the transfer.
       - (b). A new card is punched to show the number of units left in the original location.
       - (c). A new card is punched for each location receiving some of the equipment to show the number of units going to each.
       - (d). Duplicate cards are made for filing as described above in (1-c(2)).

3. Disposals

School administrators must decide whether records of discarded equipment are to be retained or destroyed. Accounting for disposals follows the same procedure as described in 2 above, except that;

a). If records of discarded equipment are to be retained, only those normally kept in the property accounting offices need to be punched. Copies do not need to go to the building.

b). If no record of discarded equipment is to be retained, only those cards needed to account for the portion of the group of equipment left in the room are punched and filed.

IV. FOLLOW-UP

School administrators can obtain an up-to-date summary of school property at any time by processing the cards on file. The resulting printouts will be as up to date as the cards from which they are made.

A school board may not call for printouts of site and building data on a regular basis, unless expenses are incurred each year for purchase of new land, improvements to sites or for building construction.

On the other hand, school administrators will want an up-to-date printout of movable equipment, at least once a year to replace the regular annual inventory taken by teachers and other employees.

The computer is programmed to produce an equipment printout which lists equipment by building and by room within the building.

The procedure for using these printouts to substitute for a manually prepared inventory was developed and tested by the project staff. It consists of the following operations:

A. Each principal was given a copy of the printout for his building, with instructions to;

B. give to each teacher or other person responsible for school property, the inventory for his room with instructions to make the following corrections on the printout.

1. Cross off items that have been transferred from the room.
2. Cross off any items listed erroniously such as:
    a). built in equipment
    b). consumable supplies
3. Add equipment that is in the room but not on the list.
4. Make other corrections on the printout that will improve

    the description of the commodities.
  5. Return the corrected printout to the principal's office.

C. After checking all the printouts for his building, the principal returned them to the project office.
D. Project staff members prepared all new and changed entries for the key punch operators.
E. The newly punched cards were added to the deck, and cards no longer correct removed.
F. A new printout was made for information.

RESULTS

Implementation of the system of school property accounting described in U. S. Handbook III under the terms of project 6-2836 produced the following results:

A. The Cedar Rapids, Iowa Community school system was provided with a complete accounting of the school property on hand in 1967.
B. Procedures for updating and maintaining school property accounting were formulated and tested.
C. A manual to assist school officials in implementing school property accounting was published, copies of which are to be distributed to Iowa schools by the State Department of Public Instruction (Appendix D).
D. The Property Classification Code Manual published by the Association for Educational Data Systems, was revised to include codes for many kinds of equipment not covered in the manual. (Appendix F)
E. Implementation, testing and revision of the system for processing school property accounting data described in the Guide for Implementing Handbook III[2] produced the following results.
  1. Workable formats were developed for recording data.
  2. Layouts for punched cards were revised.
  3. Pre-printed forms were ordered which can be used both as source documents and data printouts.
  4. Programs for processing site, building and equipment data were developed for the IBM 1401 computer.

DISCUSSION

In the words of Reason and Tankard,[3] "Accounting to the public for property under its stewardship must be accepted as a primary obligation of public school boards. However, this is but one reason for property accounting. Perhaps its greatest value is in providing the school administration with information which he needs to evaluate and use present facilites and to make plans for orderly improvements through repairs, replacements or additions of new sites, buildings or equipment."

Evidence seems to indicate, that at least in Iowa, school officials are doing a better job of accounting for equipment (and even of consumable supplies) than they are for their sites and buildings. Most school administrators require some sort of an annual inventory of school owned equipment. Some go to the expense of hiring commercial appraisers and auditing firms to furnish them with equipment inventories.

Handbook III provides a system for recording information about all three types of property; sites, buildings and equipment, by use of which school boards can make an accounting of their property, in a manner that produces meaningful records that will be comparable among districts any where.

CONCLUSION

After working with property accounting in several Iowa schools on a pilot basis and for a year working with it in depth in Cedar Rapids Community school system, the director of Project 6-2836 has come to the following conclusions:

A. The handbook system is workable in any sized district.
B. It lends itself very well to the use of electronic methods of processing.
C. Implementation of property accounting requires about the same method of collecting and recording the data whether or not electronic equipment is to be used for processing the data.
D. Use of electronic equipment has the following advantages.
    1. More items of information can be recorded.
    2. Summaries are produced quickly by computer.
    3. Cards can be sorted and programs written to isolate certain parts of the data to produce a wide variety of statistical informative computations.

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[3] Reason, Paul L. and Tankard, George G. Jr., New Standards for School Property Accounting, School Life, Vol. 42, No.2, page 14, October 1959.

(It is conceivable that most of these tabulations could be worked out by hand but the amount of time involved would be prohibitive.)

E. Disadvantage of the use of electronic equipment is the cost.
F. Records will improve as new equipment replaces items that were on hand when the inventory was first taken because the data taken directly from invoices, in the updating process, will be more complete.
G. Inventories of equipment on hand at the time the system is first being implemented may not be complete and accurate when the data are prepared and submitted by teachers and other employees (see appendix D page 3) for more complete discussion of this point.
H. The staff engaged in project 6-2836 discovered that as they grew familiar with the various aspects of the property accounting system that the "anticipation of each phase was more frightening than the actual performance". The work progressed more rapidly than was estimated in advance.

RECOMMENDATIONS

It is recommended:

A. That a school board contemplating the implementation of property accounting , employ and train enough people to do all the data gathering and preparation of the source documents with out calling upon already busy teachers to prepare data.
B. Because electronic service is becoming available on a contract bases almost any where, it is recommended that all school administrators consider adoption of this method of processing their property accounting data.

NOTE: The Iowa Information Center at Iowa City is prepared to furnish the property accounting systems and programs developed for project 6-2836 to districts which have access to electronic equipment and will contract to do the processing for others.

SUMMARY

Project 6-2836, OEC 3-7-062836-1538 entitled, " A Demonstration Center to Implement and Test the School Property Accounting System Presented in Handbook III", U. S. Department of Health, Education and Welfare, was conducted in the Cedar Rapids, Iowa Community School District during the 1967 calendar year.

In the course of the project, a complete accounting was made of the school sites, buildings and equipment at the time the project was in progress. But the primary objective was to implement and test the use of electronic equipment for processing school property data.

For the purpose of implementing electronic methods the following measures were taken:

A. Codes were established for sites and buildings.

B. Shorter codes were devised for Handbook III accounts to conserve space on the punched card.

C. Layouts were developed for punched cards.

D. Forms for original recording of data were designed with fields in the same sequence as those on the corresponding punched card.

E. Systems and programs were designed to process the data on an IBM 1401.

F. Programs were written by which the computer produced several interesting and useful statistical summaries.

G. The programs were developed at the Iowa Information Center at Iowa City, where they will be available to Iowa public schools having access to IBM equipment and to the limit of their available time, will process data for other schools.

H. Procedure for continuous updating of information was developed and tested.

EVALUATION

Information readily available with this property accounting system that was not previously available.

Before Implementation	After Implementation
1. Sites	
Folders for each site contains abstracts, deeds kept in vault.	Folders retained copy of summary sheet in each folder, another copy in central file for ready access.
Cost of improvements to sites recorded in ledgers, but no summaries available	Costs of improvements to site recorded and summarized. One (1) copy in the folder, one (1) copy in the central file.
	When electronic equipment is used data are punched into cards. Can be quickly retrieved.
2. Buildings	
Costs: Costs available in school house fund ledger in Cedar Rapids - Only way to find costs of buildings in some districts is to search thru board minutes and ledgers from date of construction to the present.	Cost: Data collected into one place for ready reference may be updated by additions to summary records.
	With electronic methods, summaries are produced readily by computer.
No information about service systems in building.	Twelve types of service systems listed by code (See Appendix D - Figure D-6)

Gross Area

Readable blue prints are on file for most Cedar Rapids buildings. This not the case in many districts when building size obtainable only by measuring.	Measurements recorded and on file for ready reference.
No information available on file on built in facilities.	On file record of 13 items of information about each room (See Appendix D Figure D-7)
No information on adjunct spaces.	Areas of adjuncts recorded and built in facilities enumerated.
Present worth, appraisers reports on file.	No additional record unless electronic equipment used, may be punched into cards.

3. Equipment

Annual inventory submitted each spring by teachers contained only names of commodities and number of each, usually no descriptions or prices, supplies and some built in facilities listed.	Record of movable equipment in each room on file, includes name and description, serial number, if any, number of units, unit price and total price.
No equipment summary.	Summaries by computer printout show number of items counted and total value for each room, each building.

The Cedar Rapids Community School District has the following facilities:

30	elementary schools	K-6
6	junior high schools	7-9
3	senior high schools	10-12
1	administration building	
1	bus shop	
1	maintenance building (carpenter & paint shop)	
1	stadium	
7	sites - with no structure on them	

As of September 15, 1967 there were enrolled:

14,196 in elementary
5,353 in junior
4,769 in senior

The faculty consisted of 1247 educational and 365 administrative personnel.

Three persons, F. R. Burnham, Director; Edwin W. Lundquist, Assistant Director and Mrs. Beverly Krause, Secretary, worked on Project 6-2836 all year. Three other clerks worked a combined total of 32 weeks during the year.

Forms used for recording data, questionnaires and various instruction memoranda were duplicated by staff members, either by liquid process or mimeograph until fall of 1967 when a new production room was set up with a full time operator in charge.

Because of the difficulty in hiring machine operators and programmers on a one year basis, special arrangements were made at the outset of Project 6-2836 with the Iowa Information Center at Iowa City to do the systems and program work and with the Cedar Rapids Community School District data processing center to furnish the key punch operator on an hourly basis. The proposal specified that the Cedar Rapids schools were to furnish the processing machine time.

The cost of implementing property accounting in the Cedar Rapids school system under project 6-2836 is divided into two (2) phases. The first phase covers the cost of collecting and recording the data. This is a basic operation that will be practically the same in any district regardless of the methods by which the data are to be processed. In the second phase, an attempt has been made to isolate all expenses, including time use, that were involved in converting to electronic methods of processing.

It takes much more time to prepare accounting records for the property on hand at the time the system is being implemented than to maintain continuous records as new property is acquired. Especially in the case of equipment, the records will become more accurate as old equipment is discarded and new equipment is acquired, because the property accounting cycle will be initiated at the time of the acquisition when all information about the item is at hand, including descriptions, name of manufacturers, serial numbers and prices.

In analyzing the time use table, one must consider that a large proportion of the administrators time and that of the secretary was spent in keeping records, writing and preparing reports required because of the research nature of the project, which could be devoted to the work of implementation under other circumstances.

In the Cedar Rapids school district employees who had responsibility for school owned equipment were required to file an inventory toward the end of the academic year. This included administrative personnel, teachers, secretaries, cafeteria employees and custodians.

There are 1612 faculty members. Assuming that the average time spent in preparation of the inventory report was 30 minutes, faculty members would have contributed 806 hours. Teachers of shop courses, homemaking, music and school lunch personnel spent much more than thirty minutes. Probably some elementary rooms did not take that long. If the time spent by all but faculty members, is disregarded, it would appear that 800 hours is a reasonable figure.

Mrs. Krause,of the project staff, took the complete inventory of the movable equipment at the new Calvin Coolidge elementary school. It took her seven (7) hours to record the data.

There are 37 faculty members at Coolidge. At 30 minutes each, they would have required 18.5 man hours to take the inventory. Because she recorded her data on source document forms, it was ready for the key punch operator as soon as the AEDS codes and prices were added. Inventories prepared by teachers were on the regular annual inventory sheet and supplemental inventory questionnaires, so had to be recopied onto the source document before processing could begin.

Because her data were more complete than on the average inventory submitted by school personnel, it was possible to code and assign prices more accurately, than before, at further saving in time.

TIME AND COST OF PROJECT 6-2836

1. Administration

Administration and Management	1096.5 hrs. @ 8.00	$ 8772.00
Clerical	538.5 hrs. @ 2.50	1346.25
Miscellaneous	79.0 hrs @ 3.00	237.00
Total		$10355.25

2. Obtaining and recording original data.

A. Sites and Buildings	1442.5 hrs. @ 3.50	2048.75
B. Equipment		
By staff members	896.0 hrs. @ 3.50	3136.00
By district personnel (Est.)	600.0 hrs. @ 5.00	3000.00
Establishing prices	697.0 hrs. @ 5.00	3485.00
Total cost of original data		$ 9621.00

3. Conversion to electronic method

A. By project staff members

Coding	503.0 hrs. @ 3.50	1760.50
Checking punched cards	471.0 hrs. @ 3.50	1648.50
Checking printouts	235.5 hrs. @ 3.50	824.25
Decolating	54.0 hrs. @ 3.50	189.00
Total		$ 4422.25

B. By IBM staff

Key punch operator	524.5 hrs. @	974.96
Systems Design & Programs	800.0 hrs. @ 10.00	8000.00
Computer operator	14.0 hrs @ 3.50	49.00
Computer time	14.0 hrs.	No cost to project
Total		$ 9023.96

Grand Total	7965.5 hrs.	$35,471.21

APPENDIX A

FIGURE A-1

Specimen page of Cedar Rapids annual inventory sheet.

Figure A-2

Specimen set of Supplemental Inventory Questionnaire

Appendix A Figure 1

SCHOOL

Department:

Room No.........................

ITEMS	**Unit Cost**	**19......**	**19......**	**19......**	**19......**	**19......**	**19......**	**Date Acquired, Disposed, Trade Name, Etc.**
(over)								

Cataloguer and date

....19....... ....19....... ....19.......

....19....... ....19....... ....19.......

SUPPLEMENTAL INVENTORY

School [illegible] Room # [illegible]

The staff working on a special school accounting project for the Cedar Rapids school district needs more information about the following commodities than is called for on our regular inventory sheets. Please complete this supplementary inventory report in addition to our regular inventory sheet and turn both of them in at your earliest convenience as the staff working on the project is ready to begin processing the data.

In the second column is a list of commodities. Select the description that fits your equipment and write the number of each that you have in the left hand column. At the right are several columns containing additional descriptive information. Some of them require a figure to be written in, while others require only a check mark. Additional lines are to be used for commodities that do not fit the description listed for a category.

Number of Units	Name of Equipment	Description				
			4 gallon	9 gallon	other	
3	Aquarium		2	1		
			single	wood	steel	
	Bed, with coil springs					
	Bed, with flat link springs					
	Bed, or cot, folding canvas					
		folding	length	width	height	
	Bench, Lathe					
	Bench, Gas Welding					
	Bench, Electric Welding					
	Bench, Lunch table seat, wood					
	Bench, Lunch table, wood top, steel frame					
	Bench, Lunch table, other material, steel frame'					
	Bench, Office, wood					
	Bench, Office, padded					
	Bench, woodworking, single unit					
	Bench, woodworking, double unit					
	Bench, woodworking, 4 units					
	Bench, Wheel Arts and Crafts					
	Bench, Electrical					
			length	width		
	Blackboard (Portable)					

the project is ready to begin processing the data.

In the second column is a list of commodities. Select the description that fits your equipment and write the number of each that you have in the left hand column. At the right are several columns containing additional descriptive information. Some of them require a figure to be written in, while others require only a check mark. Additional lines are to be used for commodities that do not fit the description listed for a category.

Number of Units	Name of Equipment	Description				
			4 gallon	9 gallon	other	
3	Aquarium		2	1		
			single	wood	steel	
	Bed, with coil springs					
	Bed, with flat link springs					
	Bed, or cot, folding canvas					
		folding	length	width	height	
	Bench, Lathe					
	Bench, Gas Welding					
	Bench, Electric Welding					
	Bench, Lunch table seat, wood					
	Bench, Lunch table, wood top, steel frame					
	Bench, Lunch table, other material, steel frame'					
	Bench, Office, wood					
	Bench, Office, padded					
	Bench, woodworking, single unit					
	Bench, woodworking, double unit					
	Bench, woodworking, 4 units					
	Bench, Wheel Arts and Crafts					
	Bench, Electrical					
			length	width		
	Blackboard (Portable)					
		length	width	height		
	Bookcase (not built in) 3 shelves, wood					
	Bookcase (not built in) 3 shelves, metal					
	Bookcase (not built in) 4 shelves, wood					
	Bookcase (not built in) 4 shelves metal					
	Bookcase (not built in) 6 shelves					

Number of Units	Name of Equipment	Description					
		length	width				
	Bulletin Board (Portable)						
		height	width				
	Cabinet, First Aid						
		wood	steel	lock ?	letter size	legal size	fire resistant
1	Cabinet, Filing, 2 drawer on rollers		✓	no		✓	yes
	Cabinet, three drawer						
	Cabinet, four drawer						
	Cabinet, multidrawer						
		width	height				
	Cabinet, Storage, (not built in) 1 door						
	Cabinet, Storage, (not built in) 2 door						
	Cabinet, Storage, (not built in) other						
		length	width	height			
~~1~~	~~Card catalogue (unattached) library, natural wood~~	5½	3"	4¾"			
~~1~~	~~Card catalogue (unattached) library, metal~~	5½"	3"	3½"			
		wood	metal	length	width	height	
	Carts, Storage						
	Carts, Service						
		all wood	all metal	wood seat metal frame	other material metal frame	height	
	Chairs, straight, with arms						
	Chairs, straight, without arms						
	Chairs, straight, padded with arms						
	Chairs, straight, padded without arms						

	Cabinet, First Aid						

		wood	steel	lock ?	letter size	legal size	fire resistant
1	Cabinet, Filing, 2 drawer on rollers		✓	no		✓	yes
	Cabinet, three drawer						
	Cabinet, four drawer						
	Cabinet, multidrawer						

		width	height				
	Cabinet, Storage, (not built in) 1 door						
	Cabinet, Storage, (not built in) 2 door						
	Cabinet, Storage, (not built in) other						

		length	width	height			
~~1~~	~~Card catalogue (unattached) library, natural wood~~	5½	3"	4¾			
~~1~~	~~Card catalogue (unattached) library, metal~~	5½'	3"	3½"			

		wood	metal	length	width	height	
	Carts, Storage						
	Carts, Service						

		all wood	all metal	wood seat metal frame	other material metal frame	height	
	Chairs, straight, with arms						
	Chairs, straight, without arms						
	Chairs, straight, padded with arms						
	Chairs, straight, padded without arms						
	Chairs, upholstered, with arms						
	Chairs, upholstered, without arms						
1	Chairs, plain, swivel, with arms	✓				36"	
	Chairs, plain, swivel, without arms						
	Chairs, padded, swivel, with arms						
	Chairs, padded, swivel, without arms						
	Chairs, upholstered, swivel, with arms						
	Chairs, upholstered, swivel, without arms						
	Chairs, typing						
	Chairs, student desk and seat combined						
	Chairs, separate coordinate with matching desk						
2	Chairs, tablet arm, with book rack	✓				2'8"	
	Chairs, tablet arm, without book rack						
	Chairs, theatre type						

umber of Units	Name of Equipment	Description						
					on stand	wall		
	Chart sets, Geography - Publisher							
	Chart sets, History - Publisher							
	Chart sets, Biology							
	Chart sets, physiology, health and hygiene							
	Chart sets, Chemistry							
	Chart sets, other (specify)							
		wood	steel	other material steel frame	wood metal frame	length	width	
	Desk, single pedestal							
1	Desk, double pedestal	✓						
	Desk, secretary's right hand type stall							
	Desk, secretary's left hand type stall							
	Desk, chair pupil's							
25	Desk, pupil's desk & chair combined				✓	14"	20"	
	Desk, pupil's desk & chair separate but match							
	Desk, adjustable drawing							
	Desk, adjustable, bookkeeping							
	Desk, manual training (see bench)							
		width	height	depth				
	Display case (unattached)							
		width	length	height				
	Easel							
	Fire extinguisher, pyrene							
	Fire extinguisher, CO_2							
	Fire extinguisher, Stainless S & A							
	Fire extinguisher, General							
	Fire extinguisher, STM CO_2							
	Fire extinguisher, First Aid S & A							
	Fire extinguisher, Other							
1	Globe, in cradle manufacturer-							
	Globe, mounted on stand - manufacturer-							
	Globe, inflatable							
	Lockers, movable, 4 lockers, steel, size -							
	Lockers, movable, 12 lockers, steel, size-							

	Chart sets, Biology							
	Chart sets, physiology, health and hygiene							
	Chart sets, Chemistry							
	Chart sets, other (specify)							

		wood	steel	other material steel frame	wood metal frame	length	width	
	Desk, single pedestal							
1	Desk, double pedestal	✓						
	Desk, secretary's right hand type stall							
	Desk, secretary's left hand type stall							
	Desk, chair pupil's							
25	Desk, pupil's desk & chair combined				✓	14"	20"	
	Desk, pupil's desk & chair separate but match							
	Desk, adjustable drawing							
	Desk, adjustable, bookkeeping							
	Desk, manual training (see bench)							

		width	height	depth				
	Display case (unattached)							

		width	length	height				
	Easel							

	Fire extinguisher, pyrene
	Fire extinguisher, CO_2
	Fire extinguisher, Stainless S & A
	Fire extinguisher, General
	Fire extinguisher, STM CO_2
	Fire extinguisher, First Aid S & A
	Fire extinguisher, Other
1	Globe, in cradle manufacturer-
	Globe, mounted on stand - manufacturer-
	Globe, inflatable
	Lockers, movable, 4 lockers, steel, size -
	Lockers, movable, 12 lockers, steel, size-

		wood	steel	alumn	length			
	Ladders, extension							
	Ladders, step							
	Ladders, straight, single							
	Lecturn, (see speakers stand)							

Number of Units	Name of Equipment	Description								
		length	width							
	Map sets (see chart sets above)									
	Mirrors, large									
	Racks, Newspaper									
	Racks, Magazine									
	Rack, Basket (Gym) 24 basket									
	Rack, Basket (Gym) 32 basket									
	Risers, 3 step									
	Podium									
		[illegible]		[illegible]	[illegible]	steel	height	wood		
	Stools, plain, without back									
	Stools, plain, with back									
	Stools, padded, without back									
	Stools, padded, with back									
	Stools, kitchen type with steps									
		Burglar rating	less than 1 cuf	1-5 cubic ft.	5-10 cubic ft	10-25 cubic ft	over 25 cu. ft.			
	Safe, movable, 1 hour									
	Safe, movable, 2 hour									
	Safe, movable, 3 hour									
	Scales, portable platform									
	Stretcher, folding with springs, metal frame									
	Stretcher, canvas									
		length	width	height	No. of drawers	steel	wood	folding	other material	steel legs
1	Table, rectangular	3'3"	2'1"	2'7"	1		✓			
	Table, round									
	Table, trapezoidal									
	Table, bookkeeping									
	Table, cafeteria, separate									
	Table, cafeteria & bench combination									
	Table, (rubbing) gym									
	Table, caddie (or truck)									
	Truck, chair or caddie									
	Truck, book									
	Typewriter stand									
	Theatre stage lights, unattached									

	Racks, Magazine									
	Rack, Basket (Gym) 24 basket									
	Rack, Basket (Gym) 32 basket									
	Risers, 3 step									
	Podium									

						steel	height	wood		
	Stools, plain, without back									
	Stools, plain, with back									
	Stools, padded, without back									
	Stools, padded, with back									
	Stools, kitchen type with steps									

		Burglar rating	less than 1 cuf	1-5 cubic ft.	5-10 cubic ft	10-25 cubic ft	over 25 cu. ft.			
	Safe, movable, 1 hour									
	Safe, movable, 2 hour									
	Safe, movable, 3 hour									

	Scales, portable platform
	Stretcher, folding with springs, metal frame
	Stretcher, canvas

		length	width	height	No. of drawers	steel	wood	folding	other material	steel legs
1	Table, rectangular	3'3"	2'1"	2'7"	1		✓			
	Table, round									
	Table, trapezoidal									
	Table, bookkeeping									
	Table, cafeteria, separate									
	Table, cafeteria & bench combination									
	Table, (rubbing) gym									
	Table, caddie (or truck)									
	Truck, chair or caddie									
	Truck, book									
	Typewriter stand									
	Theatre stage lights, unattached									

		length	width	height						
	Work bench, unattached, art									
	Work bench, kindergarten									
	Wood working (see desk)									

Please attach this page to the supplemental equipment inventory report.

ROOM DATA

School ______________________

Room Number _____ Use of Room ___________ Length _______ Width ___________

Floor surface material .... ____________________

Wall surface material .... ____________________

Ceiling surface material .... ____________________

Area of built in chalk board in room .... ____________________

Area of tack board in room (attached).................. ____________________

Number of electrical outlets........................... (110) (220)

Number of drinking fountains .... ____________________

Number of sinks or basins .... ____________________

Number of lavatories .... ____________________

Number of water closets .... ____________________

Number of urinals .... ____________________

Number of gas outlets .... ____________________

Type of lighting (incandescent, flourescent, vapor, other).. ____________________

APPENDIX B

Specimen printout of equipment in classroom.

MOVABLE EQUIPMENT

DISTRICT NO.- 1053 DISTRICT NAME- CEDAR RAPIDS COMM. SCH. CA

TRN NO.	SCH NO.	LOC.	TAG/GRP NO.	EQUIPMENT CODE	DESCRIPTION	OWN-SHP.
1	118	0246		2521205102	CHAIR STR WD 18	1
1	118	0246		2522025101	FILE 3 DR LOCK STL LETTER	1
1	118	0246		2531194200	DESK&CH COMB WD&STL	1
1	118	0246		2521731100	BOOKCASE 2SH WD	1
1	118	0246		2521102131	DESK DP WD 54X30	1
1	118	0246		3537511020	CART PROJECTION	1

ROOM TOTALS--- RECORDS- 6 UNIT

✓

EQUIPMENT

IDS COMM. SCH.   CARD NO.- 8   DATE 11/21/67

DESCRIPTION	OWN-SHP.	LIFE EXP.	NO. UNITS	DATE MO YR	UNIT COST	TOTAL COST	EST
STR WD 18	1		1		9.00	9.00	
DR LOCK STL LETTER	1		1		48.00	48.00	
CH COMB WD&STL	1		32		31.85	1,019.20	
ASE 2SH WD	1		1		25.00	25.00	
DP WD 54X30	1		1		68.00	68.00	
PROJECTION	1		1		25.00	25.00	

S- 6   UNITS- 37   COST- 1,194.20

APPENDIX D

A GUIDE FOR IMPLEMENTING AND MAINTAINING PROPERTY ACCOUNTING FOR IOWA SCHOOLS

Produced Pursuant to
One of the Objectives
of
U. S. PROJECT 6-2836
Sponsored Jointly
by
The U. S. Office of Education
The Iowa State Department of Public Instruction
The Cedar Rapids Community School District

Prepared by
F. R. BURNHAM, DIRECTOR

CEDAR RAPIDS IOWA
DECEMBER 1967

INTRODUCTION

In 1959 a committee of Iowa educators was appointed to develop a system of school property accounting for Iowa schools. With very minor changes, the committee adopted the system contained in Handbook III of the State Educational Record and Reports series published in the same year by the U. S. Office of Education.

This accounting system was described in the Handbook Property Accounting for Iowa schools, which was published in 1965 by the State Department of Public Instruction and distributed to all high school districts in Iowa.

The State Board of Public Instruction approved of the Iowa system of school property accounting and set July 1, 1970 as the date upon which it is to become compulsory in all public school districts in Iowa.

Many individuals shared in the development of U. S. Handbook III. They were local and State school officials, members of such organizations as the American Association of School Administrators, the Association of School Business Officials of the United States and Canada, the Council of Chief State Officers, the National Council on Schoolhouse Construction and the National School Board's Association, Inc.

Because Handbook III was developed through nationwide cooperation of a substantial cross section of persons concerned with public schools, it may be accepted as establishing standards for educational terms and definitions. General use of these standardized terms will result in uniform interpretation of educational statistics through out the country.

Caution: Do not confuse "Property Accounting" with "Financial Accounting". "Property Accounting" summons to mind the word "inventory", while "Financial Accounting" refers to "money". "Financial Accounting" describes methods of preparing and recording budgets, accounting for receipts, disbursements and balances in the schoolhouse fund, general fund and other special funds which may be maintained by the school district. "Property Accounting" deals with areas, uses, costs and quantities of school sites, school buildings and movable equipment.

The codes used for the two accounting systems have different functions, so are entirely unrelated.

SCHOOL PROPERTY ACCOUNTING

GENERAL STATEMENT

The purpose of this manual is to present step by step instructions for implementing property accounting in a local school district. It should be used in conjunction with the handbook, Property Accounting for Iowa Schools, published in 1965 by the State Department of Public Instruction (or U. S. Office of Education, Handbook III, of the State Educational Records and Report Series). [1] The definitions quoted will be from the handbook.

The system of School Property Accounting presented in the Iowa Handbook provides answers to questions on what information to keep and how to keep it for three classifications of school property: (1) Sites, (2) Buildings and, (3) Movable Equipment.

The implementation of Property Accounting for the first time by a school board falls into two distinct phases, namely, (1) making complete records of property on hand at the time the project is begun and (2) recording new acquisitions, disposals and transfers of property as they occur in order that an upto date running inventory may be available upon demand.

The first phase may be time consuming if there are few or no existing records, but when once completed this phase never needs to be repeated. The second is a continuing responsibility.

Recording of property on hand at the time the project is in progress, is treated in this manual in the same order as in the handbook beginning with (1) sites, following with (2) buildings and (3) equipment.

The second phase, a discussion of programs for recording acquisitions, transfers and disposals of property will follow. The final section will discuss the use of electronic data processing equipment in the field of school property accounting.

Administrators planning to initiate school property accounting should appoint a person to direct the project. The amount of time required to complete the project will depend upon the size of the school system.

[1] Reason, Paul L. and Tankard, George G. Jr., Property Accounting for Local and State School Systems. U. S. Department of Health, Education and Welfare.

Administrators also will need to decide whether the project staff is to do all of the work, or if teachers and other district employees are to be enlisted to furnish part of the original data. If a large enough staff of persons familiar with the handbook system of accounting is assigned to the project to gather all of the original data, the following advantages can be expected to accrue:

A. The total number of "man hours" required will be decreased because -

   1. It will not be necessary to spend time writing, duplicating, assembling and distributing special forms and instructions to a large number of professional district employees who will be called upon to do the data gathering.

   2. Project staff members, principals, teachers and others will not have to spend time in meetings called to explain the project.

   3. Trained persons will be able to gather the data faster.

   4. The project staff will spend less time calling or visiting schools to obtain corrections, additional facts or clarifications of the reports, because data gathered by trained persons will be-

      a. more accurate
      b. more complete
      c. more uniform

B. Descriptions will be more detailed and uniform when prepared by staff members. Codes necessary for use with electronic equipment will be more complete.

C. Cooperation between faculty members and the project staff will be less strained because busy teachers and administrators will not be asked to complete an extra report.

Another decision the administration must make before starting the actual work of implementing the property accounting system is to decide upon the method by which the property data are to be processed and select types of reporting forms adaptable to that method.

Whether school property data are to be processed manually or electronically the method of gathering and recording the original data will be substantially the same. If electronic equipment is to be used, the data will be punched into cards, and from there on, the procedures will be different.

Illustrated in the handbooks are sample forms which show how the standard property accounts might be utilized by a school district in maintaining its property records. The format of record forms may be varied to suit the needs of individual districts, but for items of information that need to be comparable among districts, the standardized accounts and terminology should be used.

Some school boards have arranged with professional accounting and appraising firms to prepare their property accounting records. These reports appear to meet the requirements of the handbook.

PHASE ONE

Accounting for Property on Hand

A. Sites

> Definition - "A site is a piece of land and all improvements to it other than structures".

Evidence encountered in pilot property accounting projects in several Iowa schools indicates that school administrators often do not have available a systematic record of real estate holdings.

There are two types of information about sites that administrators should have readily available. They are (1) those data which are comparable among districts, and (2) those which are of local interest only. The former consists of such items as (a) use of site (b) area of site (c) original cost of site and (d) the cost of improvements to site. This type of information is needed for planning by local school officials and for state and national statistics. The second type which does not have meaning outside the local district are such things as (a) name of site (b) its location (c) legal description (d) information about deeds and (e) abstracts.

If these data have never been assembled into a usable document, the property accounting director may need to do considerable research. Abstracts and deeds may be in a vault at headquarters or in a rented safety deposit box.

If these sources do not produce the desired data the research may have to extend to the county recorder's office, and possibly to a search of ledgers and/or minutes of school board meetings.

When found, deeds should provide the information from which area can be computed, but due to the common practice of listing the consideration as "$1.00 and other valuable consideration," the price often can only be estimated from that source by noting the amount of revenue stamps attached. Areas of sites should be listed to the nearest one-tenth of an acre.

The handbook illustrates two types of forms for recording the site information. The first, illustrated on pages 65 and 66 of the Iowa handbook (forms DPI 2100 and 2101) are on sale at commercial suppliers in the form of a 9 by 12 file folder. A folder would be completed for each site. Other documents pertaining to this site, such as a copy of deeds, and building records can be filed in the folder. The other type (pages 82 and 83) are columnar in style.

Improvement to sites consist of initial and additional work (other than for buildings) performed upon the site and its adjacent ways after acquisition by the school district. It may involve such things as grading, landscaping, seeding, planting shrubs and trees, (costs of excavation, fill and back fill for construction of buildings belong under cost of building) constructing new sidewalks, roadways, overpasses, retaining walls, sewers, storm drains, water mains, field hydrants and sprinkling systems; furnishings, for the first time, playground apparatus built into the grounds flag poles, gateways, fences and demolition work.

Costs of improvements to site also includes cost of any special assessments against the school district for capital improvements on or off the site, such as streets, curbs and drains on or adjacent to the site and any easements involved.

In the absence of other sources of information, such as ledgers showing expenditures for improvements to sites, property accounting personnel may need to search through board minute books.

B. Buildings

Definition - " A building is one continuous structure which may or may not be connected with other structures by passageways. It includes the building itself and the plumbing, sanitary, heating, ventilating, mechanical and electrical work, lockers, cabinets and shelves which are built into the building."

The committee which developed the Iowa handbook felt that when two or more structures are attached, local school officials should be free to decide whether records would be more useful to them if separate accounting records were maintained for each structure or if it were treated as being a single building, accounted for on a single building record.

A school building provides space to accommodate a variety of functions such as instruction, administration, maintenance, operation, storage or heating.

A building is classified according to the major function carried on in it. For instance, if the superintendent and principal, and other administrative personnel have offices in a building which is primarily a high school, the building would be classed as an instructional building rather than an administration building.

According to the handbook, four major captions of school building accounting are:

1. Use of building.
2. Ownership of building.
3. Construction data, including costs.
4. Size of building.

Rather than devote space in this manual to a detailed review of all phases of school building accounting as described in the handbook, the discussion here will be directed toward the explanation of those points that have seemed to give trouble in the past.

1. Use of Building (211 and 217)

   There is no confusion about the use of a building if it houses a school, but what is meant by "Supporting Services", is not so well understood.

   > Definition: "Supporting Services consist of activities of a school district that are not limited to one school plant".

   A supporting service building therefore would be one whose principal use is to house such activities as district administrative offices, maintenance services, warehouse services, bus garages, repair shops, residences for professional or service employees and other buildings whose function is to serve more than a single school plant.

2. Ownership (212).

Until recently all school buildings were owned outright by the district. Now it is legal for a district to enter into a lease-purchase agreement with a private company. The handbook has provisions for this type of ownership. (212.2)

3. Construction

Dates of contract, acceptance of building and of disposal should be noted on a record.

a. Type of building construction (216).

The handbook designations in this section are 216.1 Fire-Resistive; 216.2 Semi-Fire-Resistive; 216.3 Combustible and 216.4 Mixed Construction. Some specialists in building construction regard this as being "Fire-rating", rather than "Type of construction" but until there is general agreement for a change of designation, the handbook term will be used.

b. Availability of building (218).

This caption probably will seldom be used, because most school officials will wait until a building is completed before completing the accounting record for it.

c. Cost of building (230).

These expenses are paid out of the school house fund. Being rather large and concentrated in a relatively short period of time they should be easily obtained.

4. Size of Building (Floor Areas - 220).

If blueprints showing a building as now standing are available, areas can be obtained from them, otherwise the property accounting staff will have to measure the building. Blueprints provide the best possible source from which to obtain the dimensions of buildings. If there are no blueprints, or those that are available have not been revised to show all changes, such as, remodeling or additions that have been made, property accounting staff members will be forced to make actual measurements of the building.

A 100 ft. steel tape is a convenient instrument for this purpose.

Two types of measurements are listed in the handbook.

a. Gross area: Gross area is found by measuring the outside surface of the building. It is the sum of the areas of all floor levels. Include mezzanines, balconies to the extent of their actual floor area. In case an auditorium or gymnasium extends through the next floor above, the area of that floor will be reduced by the amount of area that has no floor space on that level. Exclude all unroofed areas and unenclosed roofed-over areas such as exterior balconies or porches. The area of passageways enclosed with similar type and quality of construction as the building proper, and of tunnels with clear standing head room of at least 6 feet 6 inches are included in the gross area of a building. See Code 221 for additional definitions of unusual areas.

> Definition of basement (221.1): "The area in square feet of any floor that is below grade level on all sides and has clear standing room of at least six feet six inches."
>
> Definition of first floor (221.2) "The area in square feet of the first floor, beginning at the bottom of the building that is at or above grade level along at least one entire side and has clear standing head room of at least six feet six inches."

See Code # 221.1 and 221.2 for definitions of "below grade level" and "at or above grade level".

b. Area of interior spaces: Obtain these measurements from blue prints or by actually measuring rooms, halls, etc. The sum of the measurements of all inside areas should approximate the gross area less the thickness of the walls.

When measuring an instructional area, include in the area of the room the area of all adjuncts to the room.

> Definition of adjunct: "An area that opens into and serves another facility in a building". Examples: A teachers wardrobe, a pupils cloak room, a toilet for the use of a room only, such as off a kindergarten room or an office.

The major portion of school buildings are instruction areas. (240)

a. Regular class rooms (241.1). Definition: "A regular classroom is a classroom designed, or adapted in such a manner that it can be used to house any class that does not require special built-in equipment tailored to specific needs".

   For local identification purposes, school authorities may designate a room as an English room, history room or a typing room, but unless there are built-in features fitting it specifically for a subject, for accounting purposes it is a "regular" class room.

b. Special class rooms (241.2). By contrast to "regular class rooms", special class rooms have special built in equipment fitting them for specific subjects. Examples of such rooms are: Kindergarten room, Home Economics room or Music room.

c. Administration areas in building (250). Kinds include:
   1. Superintendents Office
   2. Principals Office
   3. Guidance Area
   4. Health Service

d. Circulation areas in building (260). Another word for halls, and stairways for general traffic. This does not include corridors or stairs within a suite of offices, or a stairway to a furnace room, or from an auditorium floor to the stage, or dressing room.

   Other types of areas should be self-explanatory.

e. Service systems (280). This section should cause no difficulty. The forms are designed so that the types of service systems are indicated by a check mark. Service systems include type of heating system including the fuel used, cooling system, ventilating system, water supply, sewer system, communication system and fire protection.

C. Movable Equipment

A school district has many more items of movable equipment for which to account, than it has sites and buildings combined. Furthermore accounting for equipment is a recurring process, but when all site and building data are once recorded, no new entries will need to be made until the district incurs expense for improving sites or acquiring additional land, constructing new buildings or extensive remodeling of present structures.

Apparently school officials have regarded equipment inventories as being more useful as administrative tools than records of site and building data, because most schools do maintain some sort of annual inventory of equipment. It is probable that many of these meet all specifications of the handbook.

Two distinctions should be kept in mind when dealing with equipment. The first is the distinction between built in equipment and movable equipment.

> Definition: "Movable equipment consists of equipment items that are transportable from one location to another without appreciable damage or change to the location from which they are removed or to the location where they are installed".

Refer back to the definition of "building" in (B) above.

Although the distinction between built-in and movable equipment usually is obvious, there are instances where there may be less certainty.

These may be such things as dishwashers installed in the school lunch kitchen. Even though attached to water pipes they are considered movable. In the same category are science tables with sinks, gas and water connections, which can be removed with out damage to the room. On the other hand, sinks in homemaking classrooms built into unit kitchens, or in built-in work spaces in classroom will be classed as "built-in". Pupil desks, are treated as being equipment even though they may be attached to the floor by screws.

The second distinction that needs to be kept in mind, is the distinction between equipment and supplies. School officials will need to keep records of supplies on hand, as well as equipment inventories but there should be separate records for each category.

Accounting for supplies is not treated in the property accounting handbook.

In the Iowa Property Accounting Handbook several criteria for distinguishing between supplies and equipment are listed on page 50. Also, beginning on page 52 is a rather complete list of items, which indicates equipment by a letter E and supplies by a letter S.[2]

The handbook establishes two methods of control for equipment accounting which are (1) unit control and (2) group control.

1. Unit Control (310)

   Definition: "Unit control means that a piece of equipment is accounted for as a single unit, and it retains its separate identity in the records".

   In the handbook, on page 42, are listed criteria for unit control equipment.

   Most items under unit control have serial numbers. However, an administrator may account for all kinds of equipment under unit control, if an individual record is desired for each piece of equipment. As an illustration; although folding chairs, ordinarily would be accounted for together in a group, it is permissable, if desired, to make and retain a separate record for each chair.

2. Group Control (320)

   Definition: "Group control means that equipment items which are the same with respect to function, material, shape and size are accounted for as a group rather than as single units. That is, the individual piece of equipment loses its identity as such and is one of a group".

---

[2] Also published in Department of Public Instruction Research Bulletin No. 1000, entitled Uniform Financial Accounting for Iowa Schools, beginning page 107.

On page 46 of the handbook is a discussion of group control including criteria.

An illustration of group control would be 100 pupil desks which are all the same. One record could be kept on the group. In making records of equipment on hand at the time the inventory is being taken, administrators may prefer to make separate records for the number of pieces of a given equipment group in a room. In recording newly acquired equipment, some authorities define a group as "equipment bought at the same time and at the same price".

The forms illustrated in the handbook are substantially the same for unit control and group control methods.

3. Ownership (312.8 and 322.8)

The handbook has provision for equipment which is:

a. district owned which will cover most equipment.

b. other public ownership such as state or federally owned.

c. non-publicly owned: This is a growing field which includes such equipment as electronic data processing equipment, household appliances furnished to homemaking classes and driver education cars furnished by dealers on a lease contract with title remaining with the suppliers.

PROGRAMS FOR UPDATING PROPERTY ACCOUNTING RECORDS

SITES AND BUILDINGS

Although sites and buildings represent the largest single investments made by a school district, the number of transactions is relatively small when compared with the number of entries required to account for such expenditures as payroll, purchases of equipment and supplies.

When once recorded, no new entries will be made until more land is bought, or expenditures made for improvements of currently owned sites or new construction of buildings.

No new forms are suggested for updating site and building records. The new entries can be made on the regular source document. For manual type forms such as those illustrated beginning on page 65 of the handbook, there are spaces enough to make entries for several additions. A new record should be set up for purchase of new sites and for construction of new buildings. In either case the updated record will be shown on the summary cards. For electronic methods, new cards must be punched for each new transaction, whether on currently owned sites or buildings or property which is newly acquired. The updating will be done by computer and be recorded on the next printout.

EQUIPMENT

Updating equipment inventories, unlike site and building records, is nearly a continuous process. Consequently, updating equipment records demands more precise discussion.

For purposes of maintaining running equipment records the administration must decide:

1. What person is to initiate the record for incoming merchandise.

2. Whether equipment inventories are to be maintained by room or by building.

3. How often the administrators want a summary showing equipment on hand.

4 Whether identification tags are to be used.

5 The type of source document to be used. Some possibilities are:

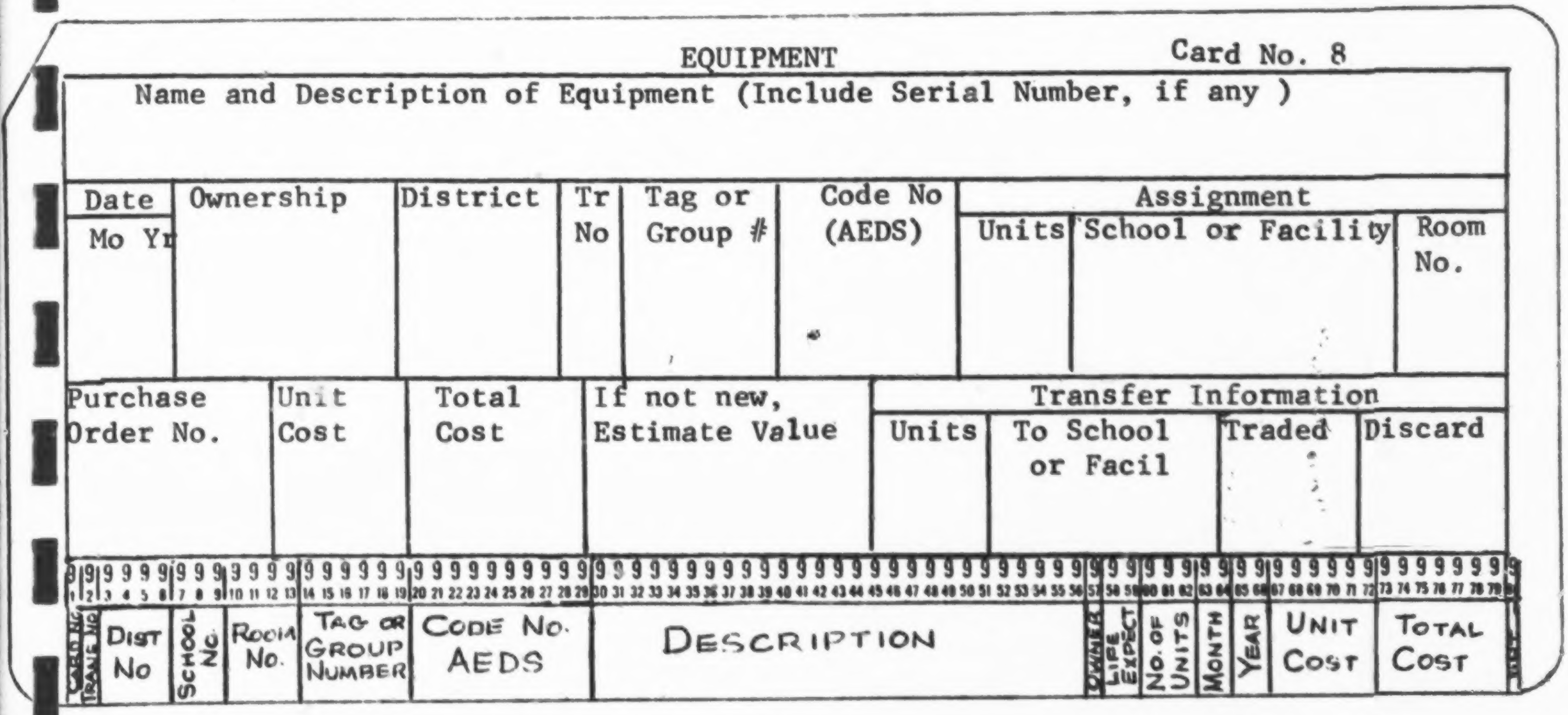
a. purchase order
b. invoice
c. pre-printed form
d. pre-printed punched card

Probably, the preferable type would be a printed form. It could be in as many copies as needed for the persons who will need to have access to the information. These forms could be in pads with different colored paper. If desired, the bottom copy of each group could be cardboard to facilitate filing at the school. The format should be designed so that there are spaces for all necessary data, including, the building, room, number of units, description, price and, when electronic equipment is used, space for the ten digit AEDS Code.

Purchase order forms have these same advantages and could be used except for the fact that often parts of an order are shipped at different times.

Invoices may be used. The clerk will write on the invoices, the necessary information about assignment and make phot copies of the invoice to be delivered to all persons.

Pre-printed punched cards may be used. The clerk will write out the assignment data in correct spaces on the card. Figure D-1 illustrates how a punched card might be printed to serve as a source document for equipment accounting. The outline at the bottom shows the fields of the card into which the data will be punched.



EQUIPMENT Card No. 8

Name and Description of Equipment (Include Serial Number, if any)

Date Mo Yr	Ownership	District	Tr No	Tag or Group #	Code No (AEDS)	Assignment		
						Units	School or Facility	Room No.

Purchase Order No.	Unit Cost	Total Cost	If not new, Estimate Value	Transfer Information			
				Units	To School or Facil	Traded	Discard

Card No Trans No	Dist No	School No.	Room No.	Tag or Group Number	Code No. AEDS	Description	Owner	Life Expect	No. of Units	Month	Year	Unit Cost	Total Cost

Figure D-1

A district ordering cards printed for their own use would not need a space for "District" number. This field could be used for additional data.

School administrators must establish policies concerning equipment inventory on the following questions:

1. Are inventories to be kept by room or by building?

Note: For the remainder of this discussion, it will be assumed that inventories are to be kept, by room. Schools keeping records by building only, will be able to eliminate one step in each process involving receipts and transfers of equipment.

2. How often are transfers to be posted involving transfers -
    a. from one room to another within the same building?
    b. from one building to another?

3. How many times a year, complete inventories are to be prepared?

ACCOUNTING FOR NEWLY ACQUIRED EQUIPMENT

Upon receipt of a shipment of equipment, the clerk will:

1. Check the shipment against the purchase order and, the invoice to make sure that the quantity, and description correspond.

2. Fill out a source document for each different place to which any part of the shipment is assigned, showing:
    a. Building, and room, if inventory is to be kept by room
    b. The quantity of each kind of equipment assigned to that building and room.
    c. Necessary descriptive information.
    d. If electronic equipment is to be used, affix the ten digit AEDS Code for each different commodity.

When a shipment of equipment is received, the clerk will have to know where it is scheduled to be sent.

He will record on a source document, complete information concerning a consignment of equipment. If the entire shipment does not go to the same place, a document must be prepared giving pertinent data including the number of units assigned to each place. A copy of each will be filed in the property accounting office, and one copy sent to the receiving school or facility, where it will be filed by room.

If electronic equipment is being used the source document will be sent to the key punch operator where a card will be punched for each different item and for each different room that is to receive merchandise. The cards will be duplicated. One copy is filed in the property accounting office, and a second in the office of the receiving school or facility where it will be filed by room.

TRANSFERS

A system of registering transfers of equipment from one location to another is essential to the maintenance of a continuous property accounting record. Although major movements of equipment should be recorded at the time of the transfer, no one could afford the time it would take to make a record each time a desk, chair or a globe was moved from one classroom to another in the same building. Accounting for these movements should be done just before an inventory is to be prepared.

When a transfer of equipment takes place, a record of it is made at the property accounting office. A special form or card may be used for this purpose, or a notation may be made on the record of the losing room and a new record made for the receiving room. From this point on, the accounting processes for transfers are the same as for new acquisitions.

Accounting for transfers involving equipment under unit control is easily accomplished because each document is the record of a single unit of equipment. Such a transfer can be effected by moving the record from the file of the losing room to the room receiving the equipment and notifying the property accounting office.

When an allocation consists of several units of identical equipment and a part of it is transferred, new records will have to be made for the room from which equipment is being transferred, the new card will show the number of units of the group that remains in the room after the transfer and the card for the room to which the equipment is transferred will show the number of units being transferred. If equipment is disposed of instead of being moved to another location in the system, records for the room from which it is taken will be handled the same as another transfer. Records for the equipment disposed of may be thrown away, or filed in a "dead" file if the administration prefers to retain the record.

INVENTORIES

When data on all newly acquired equipment and all transfers are on file in the property accounting office, an inventory can be produced at any time the administration calls for one. When computation is to be done manually, data for each room will be taken from the file and transferred to a summary sheet. Many kinds of information may be tabulated from these room inventories.

Electronic equipment gives school officials a more versatile tool. With the punched cards sorted by building and by room the computer can be programmed to print out inventories showing the number of different items, the number and value of each, for every room, for each building and for the entire district.

A variety of tabulations can be produced by sorting the cards on different columns. For instance, by sorting according to the classification code, a list could be produced to show the number and value of any one kind of equipment for an entire district or for each building.

PROPERTY ACCOUNTING BY ELECTRONIC METHOD

An increasing number of industrial companies, banks, hospitals, educational institutions, county and state offices have electronic data processing equipment. In many instances, these organizations can spare machine time to do work for others on a contract basis. The Information Center at the University of Iowa offers many kinds of service to the schools of Iowa.

With this type of service becoming available to all schools, school officials should become familiar with its capabilities, regardless of the size of their school systems.

Beginning on page 79 of the handbook is a general statement about machine accounting followed by specimens of card layouts that could be used for source documents.

To initiate electronic methods of processing data, information is punched into cards. The cards are designed with a certain number of spaces into which a digit, a letter, or a character may be punched (IBM cards have 80 columns). Some of these columns must be used to identify the card number, the school district number, the site number, school number and in some instances the room number, which places further limitation on the number of columns available for data. Consequently, to conserve card space, wherever possible, data should be represented by a short code.

Codes in the handbook contain a minimum of three digits and some have as many as six digits. A new code was developed for punched cards by listing each category of property in the ascending order of the handbook code. The list was numbered consecutively beginning with 1. These numbers were used as a new code (Page 85). For instance a house for a superintendent is code number 211.208 in the handbook, but becomes 19 by the new code. This same system was used to establish codes for the entire handbook.

Because of the limited amount of space for information that can be punched into each card, it was impractical to try to match a punched card with each card in the set illustrated beginning page 73 in the handbook. In that set there are six forms suggested for original entry and ten summary cards.

During 1967, a research project in property accounting was conducted in the Cedar Rapids Community school district, to implement, test and evaluate the use of electronic data processing equipment in school property accounting. Forms used for recording the data were duplicated by liquid process. Thus revisions could be made as experience dictated, at very small cost.

It is possible for a key punch operator to sort out data from forms of most any design and punch them into cards of desired layout, but it is far more convenient for the one who punches and the one who verifies the punching, if the source document has data in the same sequence as the fields on the punched card.

In the course of the project the design of the forms underwent several revisions. The final drafts of these forms correspond with the card formats illustrated below. In this set, there are ten cards, all of these are for original entry. There are no summary cards because summaries are made and printed by the computer.

These card layouts were developed at the Iowa Information Center at the University at Iowa City. The card layouts and the programs for processing data may be obtained from the center.

CEDAR RAPIDS
PROPERTY ACCOUNTING PROJECT

In this section an attempt will be made to present in "layman's language", how IBM was used to process school property accounting in Cedar Rapids, Iowa.

The first step in implementing property accounting is to gather and record the data. This task is basically the same whether the processing is to be done manually or electronically.

The project staff members manually entered data about sites, buildings and equipment on the home-made "dittoed" forms from which they were punched into cards by Cedar Rapids Community School key punch operators. At the start of the project, the forms used were designed with the same sequence of fields as illustrated in the card layouts, beginning on page 82 in the handbook. The coding system listed for each form in this section of the handbook was used.

SITES AND BUILDINGS

Card formats for sites and buildings as finally adopted for punching and processing are illustrated in figures D-2 through D-9.

CARD 0 SITES

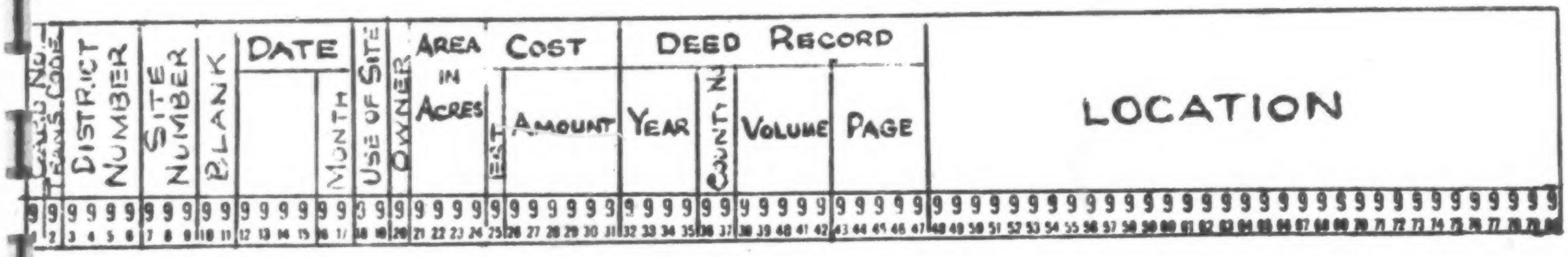


Figure D-2

CARD I, SITE IMPROVEMENTS

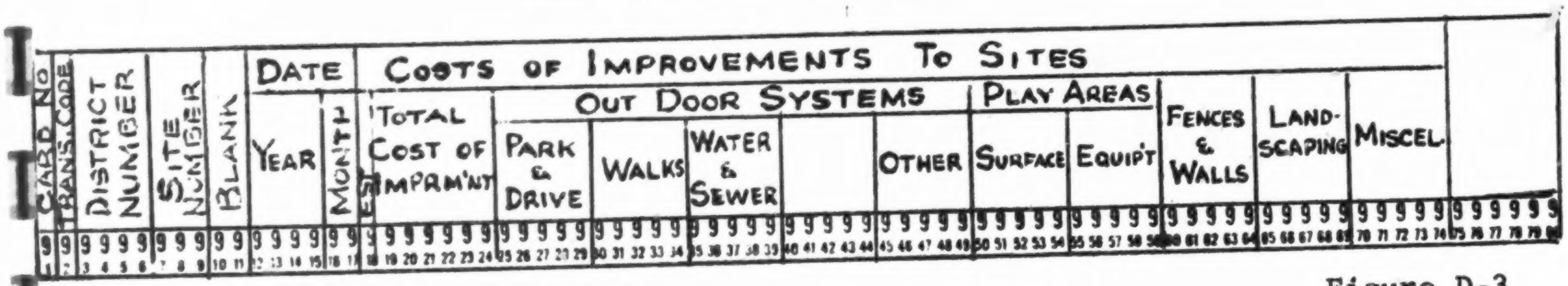

CARD No
TRANS. CODE
DISTRICT NUMBER
SITE NUMBER
BLANK
DATE
YEAR
MONTH
EST
COSTS OF IMPROVEMENTS TO SITES
TOTAL COST OF IMPRM'NT
OUT DOOR SYSTEMS
PARK & DRIVE
WALKS
WATER & SEWER
OTHER
PLAY AREAS
SURFACE
EQUIP'T
FENCES & WALLS
LAND-SCAPING
MISCEL.

Figure D-3

CARD II, BUILDING

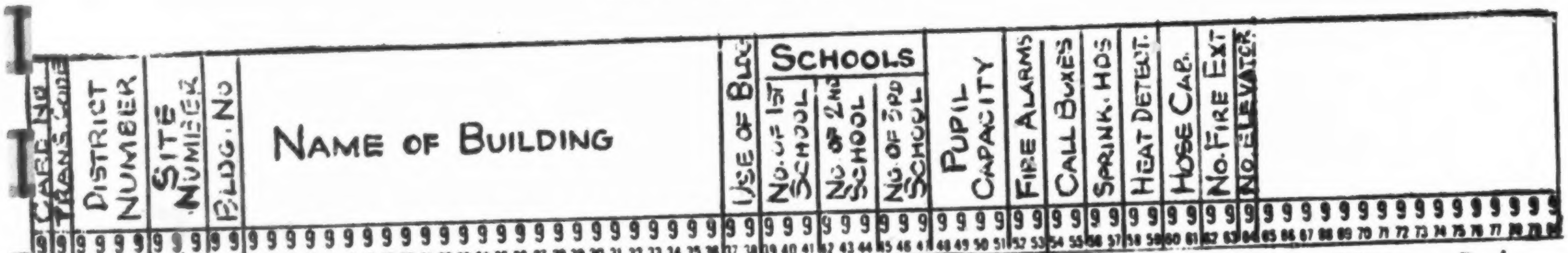

CARD No
TRANS. CODE
DISTRICT NUMBER
SITE NUMBER
BLDG. No
NAME OF BUILDING
USE OF BLDG
SCHOOLS
No. OF 1ST SCHOOL
No. OF 2ND SCHOOL
No. OF 3RD SCHOOL
PUPIL CAPACITY
FIRE ALARMS
CALL BOXES
SPRINK. HDS
HEAT DETECT.
HOSE CAB.
No. FIRE EXT
No. ELEVATOR

Figure D-4

CARD III, BUILDING SECTION HEADER

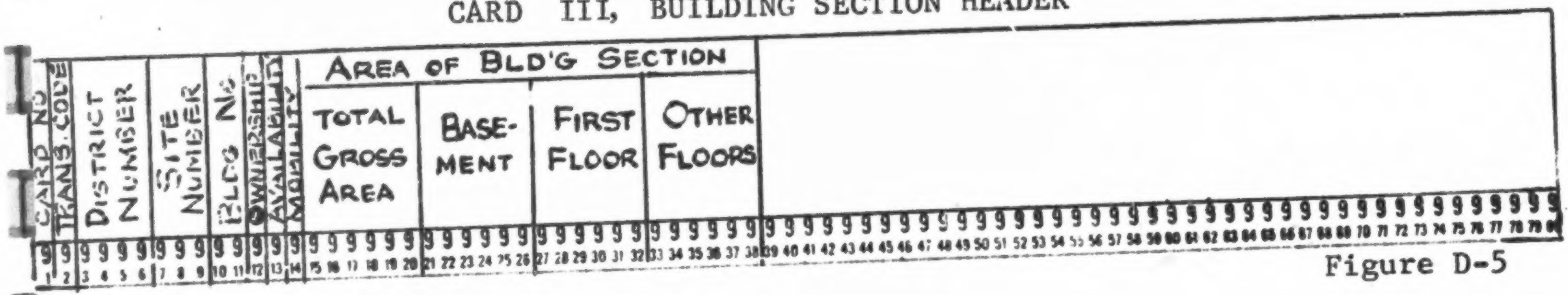

CARD No
TRANS. CODE
DISTRICT NUMBER
SITE NUMBER
BLDG No
OWNERSHIP
AVAILABILITY
MOBILITY
AREA OF BLD'G SECTION
TOTAL GROSS AREA
BASE-MENT
FIRST FLOOR
OTHER FLOORS

Figure D-5

CARD IV, SECTION CARD

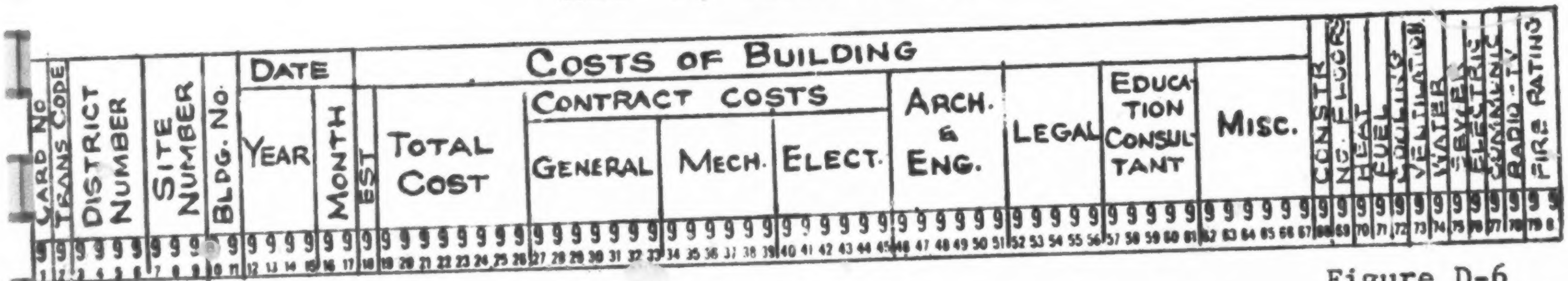

CARD No
TRANS CODE
DISTRICT NUMBER
SITE NUMBER
BLDG. No
DATE
YEAR
MONTH
EST
COSTS OF BUILDING
TOTAL COST
CONTRACT COSTS
GENERAL
MECH.
ELECT.
ARCH. & ENG.
LEGAL
EDUCATION CONSULTANT
MISC.
CONSTR
No. FLOORS
HEAT
FUEL
COOLING
VENTILATION
WATER
SEWER
ELECTRIC
COMMUNIC
RADIO-TV
FIRE RATING

Figure D-6

CARD V, ROOM CARD

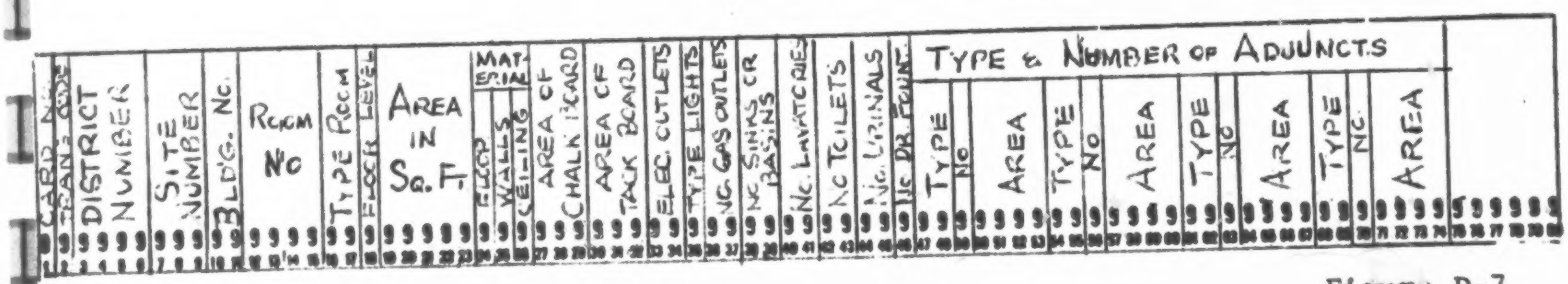

CARD No
TRANS. CODE
DISTRICT NUMBER
SITE NUMBER
BLDG. No
ROOM No
TYPE ROOM
FLOOR LEVEL
AREA IN SQ. FT
MATERIAL
FLOOR
WALLS
CEILING
AREA OF CHALK BOARD
AREA OF TACK BOARD
ELEC. OUTLETS
TYPE LIGHTS
No. GAS OUTLETS
No SINKS OR BASINS
No. LAVATORIES
No TOILETS
No. URINALS
No. DR. FOUNT.
TYPE & NUMBER OF ADJUNCTS
TYPE
No
AREA
TYPE
No
AREA
TYPE
No
AREA
TYPE
No.
AREA

Figure D-7

2 OF 2

ED
018969

1.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
10
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8
1.1
1.25
1.4
1.6

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963

CARD VI, BUILT-IN EQUIPMENT

Card No. Trans Code	District Number	Site Number	Bldg No	Room No.	Record of Built In Equipment																					
					Lockers	No.	Type	No.	Type	No.	Type	No	Type	No	Type	No	Type	No	Type	No	Type	No	Type	No	Type	No.	

Figure D-8

CARD VII, APPRAISAL

Card No. Trans Code	District Number	Site Number	Bldg No.	Date		Present Value	
				Year	Month		

Figure D-9

Ledgers at the administration building of the Cedar Rapids District contained records of costs of sites and improvement to sites and areas of sites. A folder was in the file for each site in which were deeds and other information pertinent to the acquisition and preparation of land for district uses. Therefore, no land was actually measured.

Ledgers, also, carried accounts of expenditures for buildings. Blueprints were on hand for most buildings so that measurement of buildings and rooms within the buildings was accomplished in the office. A few older buildings were measured by staff members.

Some of the information required for the detailed sections of cards IV and V were obtained on these visits to the schools, but most of it was obtained from records at the administration building and from a section of the supplemental questionnaire turned in by each teacher.

The Iowa Information Center at the University of Iowa provided analysis and program service. Duplicates were made of site and building cards and sent to Iowa City for processing.

The computer is programmed to print the information from both site cards on the same printout. Information from all building cards is combined in a single printout. (Illustration D-10)

BUILDINGS

District No.______ District Name ____________________________

Site No._____ Building No._____ Building name _________________________

Card	Tr	Use	Schools this Bldg			Capacity	Fire Alarm	Coll Bas	Sprk	Smoke Det	Hose Cab	Ext	Elev
2													

Present Value			
Year	Month	Amount	

Card NO	Trans	Sec	Owner	Avail ability	Mob ility	Gross Area	Basem't	First Fl	Other Floors
3									
3									
3									
3									

Card NO	Trans	Sec	Own	Avail-ability	Mob ility	Gross Area	Basem't	First Fl	Other Floors
3									
3									
3									
3									

						COSTS OF BUILDING																			
Card NO	Tr Code	Sec NO	DATE YR	DATE MO	Est	Total	Gen Contr	Mech Cont	Elect Cont	Arch	Legal	Ed Cons	Misc	Const	Floors	Heat	Fuel	Coolg	Vent	Water	Sewer	Elect	Comm	Rftv	Fire Prot
4																									
4																									
4																									
4																									
4																									
4																									
4																									
4																									
1/																									
Total Costs This Building																									

Figure D-10

[illegible]

[illegible]

EQUIPMENT

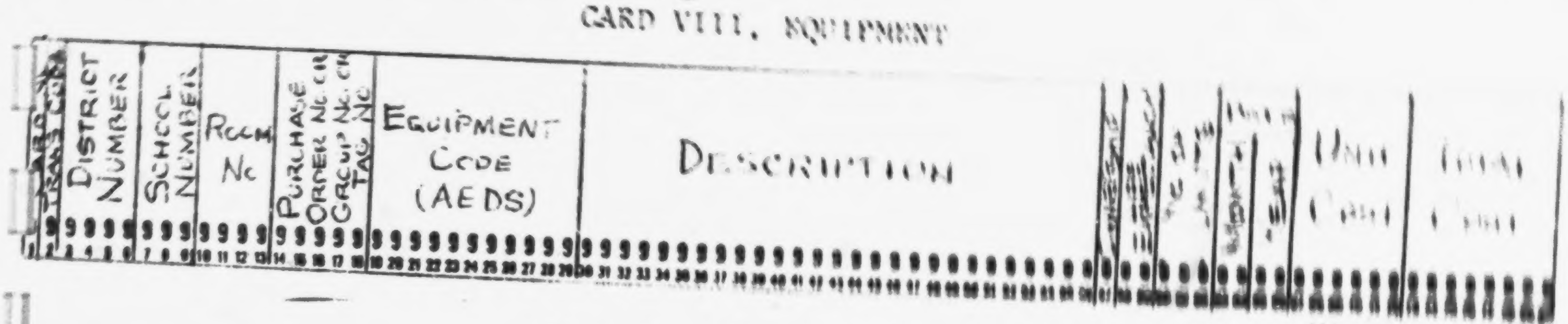
[illegible] of an equipment inventory [illegible] a school district [illegible] largest single task [illegible] a staff [illegible] the handbook system of property accounting.

In Cedar Rapids an inventory is required for the equipment in each room in the system. These inventories are prepared and filed toward the end of each school year by teachers, and other district employees. It was the plan for project [illegible] that the inventory to be developed should continue to be so used.

Data from the inventories filed by school employees were transferred manually by members of the project staff to "[illegible]" forms developed by the staff for that purpose.

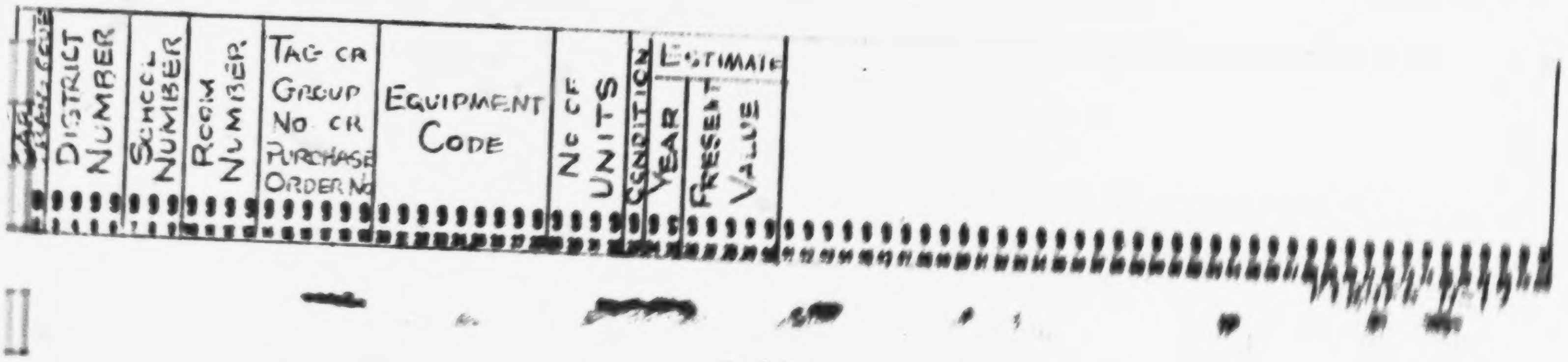
It was decided to use the same card format for recording all equipment, whether it be the type classified in the handbook as under "Unit Control" or "Group Control".

CARD VIII, EQUIPMENT


DISTRICT NUMBER
SCHOOL NUMBER
ROOM NO
PURCHASE ORDER NO. OR GROUP NO. OR TAG NO
EQUIPMENT CODE (AEDS)
DESCRIPTION
UNIT COST
TOTAL COST

CARD IX, PRESENT VALUE

Figure D-11


DISTRICT NUMBER
SCHOOL NUMBER
ROOM NUMBER
TAG OR GROUP NO. OR PURCHASE ORDER NO
EQUIPMENT CODE
NO OF UNITS
CONDITION
ESTIMATE
YEAR
PRESENT VALUE

The Cedar Rapids administration has not chosen to tag equipment, so the field for tag number is vacant on the Cedar Rapids records.

The field intended for recording the name and description of equipment contains 27 columns. Staff members had to fit the name and descriptive data (including serial numbers, if any) of equipment into this 27 column field. Often, this meant trying to devise understandable abbreviations.

The column entitled "AEDS Equipment Code" is for entering the ten digit code for each kind of equipment, which was devised by the Association for Educational Data Systems. It has little meaning for the average person. The remainder.of the card should present no difficulty.

The inventories filed by school employees did not include prices for equipment. To establish reasonable prices, staff members searched through invoices of purchases made during several years, studied school supply catalogues and contacted supervisors and teachers. A price list of the more frequently occurring items was made from information obtained from these sources.

The cards were sorted by the AEDS code. Thus the cards for similar commodities in the entire system were grouped together. The staff separated each group with a rubber band, and attached the suggested price to each bundle. The key punch operator punched the same price into all the cards in each bundle. Items that occurred infrequently were priced and punched individually.

When the prices were all punched, the cards again were sorted, this time by room and school number. The cards were then processed on an IBM 1401 computer.

The computer was programmed to print the data for each room by itself, giving the total number of entries, the total number of items and the value of all equipment in that room. Those same totals were given for a building and in the end, for the entire district.

The printouts were printed on four ply paper. One copy was separated by buildings, and handed out to the building principals at their pre-opening principal's meeting on August 22. Principals were instructed to separate the printout by rooms and ask each teacher or other employee to check the inventory for their room and make changes that were needed to bring it up to date.

When the printouts were returned, property accounting staff members checked entries that had been changed or added to prepare them to be punched into the cards. The chief task was to change codes for equipment for which descriptions were changed and supply the codes for newly entered equipment. The printouts were then given to the key punch operators who punched new cards for each change. The staff members then removed the incorrect cards from the deck, and inserted the new ones in the correct sequence.

In the final phase of Project 6-2836, the program for updating inventories outlined in section two (2) of this manual, was put into operation, tested and evaluated. A very large amount of equipment was delivered to the Cedar Rapids Community School District during the summer of 1967. In addition to the customary amount of summer purchases, two new schools, Coolidge Elementary and Kennedy High School were completely furnished.

Data for property accounting records were obtained from the purchasing department. Because a considerable amount of equipment was transferred from other schools in addition to newly purchased equipment an actual inventory was taken in November at the Coolidge elementary school, by a member of the property accounting staff.

When all these new data were punched into cards a new printout was made for the information of the administration.

Explanation of Card Layouts

Column 1 on all cards is to record the number of the card in the Property accounting series, zero through nine.

Column 2 on all cards is for recording the transaction according to the following code 1= acquisition or new record. 2=disposal or deletion of record. 3= replacement or correction of data.

Columns 3-6 on all cards are for recording the four digit code assigned to Iowa schools by the State Department of Public Instruction.

Columns 7-9 on all cards are for recording the number of the site in the district. This is a local designation.

Columns 10-11 on cards 2 through 7 is for identification number for the building on the site.

Card No. 0 Site Card

Columns 18 and 19-type of site, show the use of the site by selecting the correct use from the following list and entering the number preceding it in columns 18 and 19.

111. USE OF SITE

1.	Elementary School	111.11
2.	Secondary School	111.12
3.	Combined Elementary & Secondary	111.13
4.	Community College	111.14
5.	Combined Secondary and Community College	111.15
6.	Other School Plant	111.16
7.		
8.		
9.		
10.		
11.	Administration Building	111.201
12.	Instructional Building	111.202
13.	Pupil Transportation Building	111.203
14.	Maintenance Building	111.204
15.	Warehouse Building	111.205
16.	Food Service Building	111.206
17.	Dormitory	111.207
18.	Living quarters for Professional Personnel	111.208
19.	Living quarters for Service Personnel	111.209
20.	Public Library Building	111.210
21.	Play ground Building	111.211
22.	Community Service Building	111.212
23.	Investment Building	111.213
24.	Other Building	111.214

25.	Vacant Site	111.215
26.	Playground	111.2151
27.	Parking Lot	111.2152
28.	Agricultural plot	111.2153
29.		
30.		
31.		
32.		
33.		
34.	Other Site	111.216

Column 20 shows ownership by selecting the correct response from the following choice:

1.	District owned	112.11
2.	Municipally owned	112.12
3.	Authority owned	112.13
4.	Other public ownership	112.14
5.	Non-publicly owned land	112.2

Columns 21-24 Area in acres to nearest 1/10 acre.

Column 25 This column will be blank if the cost is actual figures, but if the cost figure is an estimate enter 1.

Columns 26-47 are to be used for deed recording data. Remainder of the card is for location of the site. Iowa authorities prefer the use of address rather than longitude and latitude.

Card No. 1. Site Improvement Card

Costs are listed to the nearest whole dollar. Where available, the costs should be shown under the several headings as well as in the total field.

Card No. 2 Building (Header)

Columns 12-36 name of building spelled out.

Columns 37-38 use of building is shown by entering in columns 37-38 the code number before the correct "use of building" selected from the following list:

1.	Elementary School	211.101
2.	Junior High School	211.102
3.	Incomplete High School	211.103
4.	Four Year High School	211.104
5.	Senior High School	211.105
6.	Junior-Senior High School	211.106
7.	Six Year High School	211.107

8.	Vocational or Trade School	211.108
9.	Community College	211.109
10.	Special Education	211.110
11.	Other School	211.111
12.	Administration	211.201
13.	Instructional	211.202
14.	Transportation	211.203
15.	Maintenance Building	211.204
16.	Warehouse	211.205
17.	Food Services	211.206
18.	Student Dormitory	211.207
19.	Living Quarters for Professional Personnel	211.208
20.	Living Quarters for Service Personnel	211.209
21.	Public Library	211.210
22.	Playground Service	211.211
23.	Community Services	211.212
24.	Other Building	211.214
25.	CentralHeating Building	217.02
26.	Central Cooling Building	217.03
27.	Central Heating and Cooling	217.04
28.	Central Stadium	217.08
29.	Field Building	217.09

Columns 39-47 provide space for recording the three digit Iowa code number for as many as three schools in this building.

Columns 48-51 Enter the rated pupil capacity of the building.

Columns 52-64 are self explanatory.

Columns 65-80 are blank

Card 3 Building Section

Column 12 Ownership (see code for ownership, card 0 above)

Column 13 Availability - choose number before the correct response.

1.	Available for complete occupancy	218.1
2.	Available for partial occupancy	218.2
3.	Abandoned	218.3

Column 14 Mobility - choose code numbers before the correct response.

1.	Permanent Building	219.1
2.	Portable Building	219.2

Columns 15-20 Enter gross floor area for entire building (outside measurements)

Columns 21-26 Enter gross area of basement.

Columns 27-32 Enter gross area of first floor.

Columns 33-38 Enter gross area of all other floors.

Columns 39-80 Blank

Card 4 Building Section Card

Column 18 If costs in the 19-26 field are estimates rather than actual, enter the figure one here.

Columns 19-26 Enter total construction costs to the nearest whole dollar.

Columns 27-66 Call for costs to the nearest whole dollar, in several categories.

Column 67 Type of Construction

Codes for columns 67 through 78

Column 67 -	1. Fire resistive	216.1
	2. Semi-fire resistive	216.2
	3. Combustible	216.3
	4. Mixed construction	216.4

Column 68 shows the number of floors in the building.

Column 69 -	1. Central heating system	281.11
	2. Local zone heating system	281.12
	3. Room fired heaters	281.13

Column 70 -	1. Wood	281.21
	2. Coal	281.22
	3. Gas (natural or liquified)	281.23
	4. Oil	281.24
	5. Electricity	281.25
	6. Heat pump	281.26
	7. Other	281.27

Column 71 -
1. Permanent installation, whole bldg. cooled.
2. Permanent installation, administrative offices and classrooms cooled.
3. Permanent installation, administrative offices and classrooms cooled, except shop, gym and cafeteria.
4. Permanent installation, offices only
5. Window units only.

Column 72 -	1. Window	283.1
	2. Gravity	283.2
	3. Mechanical exhaust	283.3
	4. Mechanical supply	283.4

Column 73 -	1.	Municipal	284.11
	2.	Drilled well	284.12
	3.	Dug well or other source	284.13
Column 74 -	1.	Municipal	284.31
	2.	Open settling tank	284.32
	3.	Septic tank	284.33
	4.	Other	284.35
Column 75 -	1.	Building completely wired	285.1
	2.	Building partially wired	285.2
	3.	Emergency system	285.3
Column 76 -	1.	Telephone system	286.1
	2.	Speaker system	286.2
	3.	Combination speaker-phone	286.3
	4.	Program system	286.4
	5.	Code call system	286.5
Column 77 -	1.	Television receiving	287.1
	2.	T. V. program origination	287.2
	3.	Radio receiving system	287.3
	4.	Radio program origination	287.4
	5.	Two way radio phone combination	287.5

(Note: 1 and 2 refer to systems with central master antenna systems with receiving systems in principal classrooms or viewing areas)

Card No. 5 Room Card

Columns 16-17 Type of room. Select code number from following list:

1.	Regular classroom	241.1
2.	Kindergarten	241.21
3.	Laboratory	241.22
4.	Shop	241.23
5.	Home Economics	241.24
6.	Music Room	241.25
7.	Special for Exceptional Children	241.26
8.	Other special classrooms	241.27
9.	Library	242.1
10.	Study Hall	242.2
11.	Audio-Visual	242.3
12.	Auditorium	242.4
13.	Gymnasium	242.5
14.	Gymnatorium	242.6
15.	Cafetorium	242.7
16.	Multipurpose	242.8
17.	Miscellaneous instruction areas	242.9
18.	Principal's office	251.1
19.	Guidance area	251.2
20.	Health service	251.3

21. Superintendent's Office	251.4
22. Miscellaneous Administrative Areas	251.5
23. Corridors, Entry Ways, Stairs	261
24. Covered Passageways Outside Buildings	262
25. Cafeteria or Lunchroom	271
26. Teachers' Rooms	272
27. Mechanical & Electrical Service	273.11
28. Custodial Service Rooms	273.12
29. Building Work or Repair Shops	273.13
30. Storage Rooms	273.14
31. Toilet Rooms 2	274
32. Shower Rooms	275
33. Miscellaneous Areas	276

Column 18 Shows on what floor this room is located.

Columns 19-23 Shows the area of this room, including areas of adjunct spaces.

Columns 24-25-26 Select correct response from the following:

BUILDING MATERIALS

Floor - 1. Concrete
2. Wood
3. Asphalt Tile
4. Vinyl and Rubber
5. Linoleum
6. Ceramic Tile
7. Terrazzo
8. Marble
9. Carpet

Walls - 1. Plaster
2. Concrete or Cinder Blocks
3. Clay Tile
4. Brick
5. Ceramic Tile
6. Wood
7. Metal
8. Fiber Board
9. Glass

Ceiling - 1. Plaster
2. Acoustical Plaster
3. Masonry
4. Wood
5. Metal
6. Acoustical Panels or Blocks
7. Fiber Board
8. Glass
9. Ceramic Tile

Columns 27-32 Show the areas of permanent chalk board and tack board on the walls of the room.

Column 35 Indicates type of lighting from below:

1. Incandescent
2. Flourescent
3. Vapor
4. Other

Columns 38-39 Show the number of sinks and basins used in kitchens, homemaking, art and science classrooms or in janitors closets.

Columns 40-41 Lavatories refers to facilities designed for washing hands and face.

Columns 42-43 Show the number of toilet stools.

Columns 47-48, 54-55, 61-62, 68-69 Select the code for the type of adjunct from the list below:

1. Cloak Room
2. Storage Room
3. Work Room
4. Toilet Room
5. Practice Room
6. Preparation Room
7. Display Room
8. Laundry Room
9. Dressing Room
10. Shower Room
11. Locker Room
12. Training Room
13. Library
14. Office
15. Conference Room
16. Reception Room
17. Lounge (Counselor's Suite)
18. Drying Area
19. Lavatory Area
20. Darkroom
21. Drying Room
22. Study Carrels (Alcove)
23. Audio-visual Control Room
24. Observation Room
25. Transformer Room
26. Vault
27. Communications Control Room
28. Clinic Bedroom
29. Hearing Test Room
30. Dental Care Room
31. Snack Bar

32. Concession Room
33. Ticket Booth
34. Press Box
35. Others

Columns 49, 56, 63, 70 Show the number of each type of adjunct connected with this room.

Columns 50-53, 57-60, 64-67, 71-74 Show area of each type of adjunct to nearest square foot.

Card No. 6 Built in Equipment

This is an optional card that is self explanatory.

Card No. 7 Appraisal Card

This card is self explanatory, and can be used for sites and/or buildings.

Card No. 8 Equipment Card

Columns 10-13	Four columns are to be used to show location of the equipment recorded on this card. At the discretion of the local administrator, this field may be used to show the assignment of this equipment to a building or to a room.
Columns 14-19	are available for recording information of local nature such as tag numbers if used.
Columns 20-29	This field is for recording the 10 digit code for equipment set up by the Association of Educational Data Systems.
Columns 30-56	This field is to be used for the name of the item of equipment and some descriptive data, such as size and serial number.
Column 57	Ownership - 1. District owned 2. Municipally owned 3. Authority owned 4. Other public ownership 5. Non-publicly owned land
Columns 58-59	Local administrators may use this field to record depreciation policy for the equipment.
Columns 60-62	Show actual number of units of equipment accounted for in this entry.
Columns 63-66	Self explanatory

Columns 67-72	Enter the number assigned by the district to the order with which this equipment was purchased.
Columns 73-79	Enter the cost of the item or items accounted for on this card in dollars and cents.
Column 80	If the cost figures entered in columns 73-79 is an estimate rather than actual cost, enter a figure one (1) here.

Card No. 9 Equipment - Present Value and Inventory Card

Columns 10-29	See instruction for these fields for Card 8 above
Columns 30-32	No. of units covered by this card.
Column 33	Enter the appraisal of condition of equipment from the following: 1. Best condition (good as new) 2. Good 3. Average 4. Poor 5. Little or no value

PROPERTY ACCOUNTING

District ______________________ No. ________ Card 1 Sites

Name

Site No. ________ Name of School or Facility on Site ____________________ Address ______________________

Year	Mo.	Day	Type or Use of Site	Owner	Area in Acres	Esti or Actu Cost	Cost	Deed Recording Data			
								Year	Co. No.	Volume	Page

PROPERTY ACCOUNTING

ame of District__________________________No._________

Card 21
Site Improvements

ite Number __________ Name of School or Facility on Site ____

ddress____

Yr.	Mo.	Day	Total Cost of Imprv.	OUT DOOR SERVICE SYSTEMS					PLAY AREAS		Fences and Walls	Land-scaping	Miscell-aneous
				Parking and Drives	Passages & Walks	Water and Sewer	Electric	Other	Surface	Equip.			

PROPERTY ACCOUNTING

District ______________________________ No. ________
Name

Card 3 √
Building Header Ca

Site No. ______________ Name of School or Facility ________________________________ Building No. ______

Address ____

Building No. this Site	Use of Building	Schools in Bldg.			Rated Pupil Capacity	No. of Fire Alarms	No. of Call Boxes	No. of Sprinkler Heads	No. of Smoke Detectors	No. of Hose Cabinets	No. of Fire Extinguishers	No. of Elevators
		No. of First School	No. of Second School	No. of Third School								

PROPERTY ACCOUNTING

Card # 3
Section Header

District ______________________ No. ________
Name

Site No. ________ Name of School or facility ______________________________

Address ______________________________________

Building No. this Site	Ownership	Availability	Mobility	AREA OF BUILDING SECTION			
				Total Gross Area	Area of Basement	Area of First Floor	Area of Other Floors

PROPERTY ACCOUNTING

istrict ______________________ No. __________

Name
Name of School
ite No. ________ or Facility ____________________________

uilding No. __________ Address ____

Card 4
Building Section Card

				COSTS OF BUILDING SECTION																	
				Contract Costs																	
Year	Month	Estimate	Total	General	Mechanical	Electrical	Architect and Engineer	Legal	Educational Consultant	Miscellaneous	Type of Construction	No. of floors	Heat	Fuel	Cooling	Ventilating	Water	Sewage	Electric	Communications	Radio and T. V.	Fire Extinguishers

PROPERTY ACCOUNTING

Card 5
Room Card

istrict ______________________ No. _______
Name

ite No. ______________ Name of School or Facility ______________________

uilding ______________________ Address ______________________________

ROOM No.	Type of Room	Floor Level	AREA IN SQ. FT.	CONST MATRL			AREA CHLK BORD	AREA TACK BRD.	No. of Electric Outlets	Type of Lights	No. Gas Outlets	No. of Sinks and Basins	No. of Lavatories	No. of Water Closets	No. of Urinals	No. Drink Founts	TYPE AND NO. OF ADJUNCT SPACES											
				Floor	Wall	Ceiling											Type	Number	AREA	Type	Number	AREA	Type	Number	AREA	Type	Number	AREA

PROPERTY ACCOUNTING

Card 8
Equipment Card

District ____________________ No. ________
Name

Site No. __________ Name of School or Facility ____________________

School No. __________ Address ____________________

Room No.	Tag or Group No.	AEDS Equipment Code	Description	Owner	Life Expcty	No. of Units	Date of Purchase		Unit Cost	Total Cost	Estimate
							Yr.	Mo.			

OE-BR
EF
must

FROM:

ERIC FACILITY,
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WASHINGTON, D.C. 20006